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~~Suppl of~~ F. 207 [Giant Folios]

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- 1) ALBINUS. Skeleton and muscles. 1749. Last leaf bound at end of vol.
- 2) EUSTACHIUS. Blood vessels and nerves. 1750. (Suppl of F. 207a)

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T A B L E S
OF THE
S K E L E T O N
AND
M U S C L E S
OF THE
H U M A N B O D Y,
BY
BERNARD SIEGFRIED ALBINUS.
TRANSLATED FROM THE LATIN.



LONDON:
PRINTED BY H. WOODFALL,
FOR JOHN AND PAUL KNAPTON. M.DCC.XLIX.

TABLES

OF THE

SKELTON

AND

MUSCLES

OF THE

HUMAN BODY.



43333(1)

BERNARD SIEGHEIM

TRANSLATED FROM THE LATIN

LONDON:
PRINTED BY H. WOODBURN
FOR JOHN AND PAUL KNOTT, 11, PATERNOSTER ROW.

A C C O U N T of the W O R K.



Imagine it will not be disagreeable to the reader, to explain to him in what manner those figures were constructed, by which means he will be rendered the more capable to judge of them. And in order to this, I shall not only mention those things which succeeded according to my wish, but also those obstacles which I met with in this work; that thereby he may the more easily understand what is to be avoided, and what is to be observed, in a work of this nature. First then, I set out with planning the muscles, and was extremely desirous to have them exactly expressed in the figures, not only singly, but in the order in which they lie with one another, and this last I thought the most proper to begin with. But as a great many of the muscles are placed behind others, it was necessary to divide them into certain classes, the first of which contains those which lie immediately under the teguments, the second those next to them, and so of the rest. Wherefore I wanted not only that the members should be kept in the same position while the figures of these different classes were a taking off, but that these classes should be exactly continued into one another, and by this means, that they might all appear the same as they do in the body when put in the same light and position. With this view, I exposed these classes of muscles before the engraver, in the same method as most other anatomists have done before, and he did them as well as he possibly could. But the chief impediment in the way was this; that as in drawing the first classes, some both of the muscles and bones were only exposed in part, but fuller expressed in the next, after the first muscles, which covered them before, were removed; he could not possibly draw those parts of them in the first classes (which by being first exposed, were first to be taken off) in such a manner, as that at the same time they should be continued directly into the following, and after they were thus continued, preserve their proper situations as they do in the body. But although afterwards, as the inner classes explained what was to be done, the figures of the outer ones were accordingly mended, and all the figures were tolerably well done, and discovered a great deal of skill in the engraver, yet I was not sufficiently pleased with them, because things were neither connected in them so well as I could wish, nor were they distinctly, nor elegantly enough designed; and they were quite different from those which I had planned in my own mind. This I was convinced of upon trial in some parts which I examined, *viz.* the belly, breast, arms, and face. And from this I discovered what was to be done, in order to amend what I thought was deficient. I observed that in drawing, as the first order of muscles sufficiently displayed the figure of the limbs in general, they could be well enough expressed by the engraver in such a manner, as justly to represent the figure of these parts; but that after the external muscles were removed, the further he proceeded amongst the internal, the figure of the parts growing more and more imperfect, was of less assistance to him in drawing these parts, and he was obliged to accommodate them to the first, as the basis. And he must succeed still worse in the bones and skeleton, because the order in which they lie, though it bears a resemblance to the figure of the human body in general, yet at the same time it differs considerably from it. But unless the skeleton, to which the muscles are affixed, was justly drawn, the muscles themselves could never be right represented. I understood besides, that every thing that was done must be very unsatisfactory, unless the proper dimensions of the different parts were carefully marked. But here there were great difficulties to be overcome. For, in the first place, the parts must all be accurately measured, and afterwards their dimensions marked in the figures. Besides, supposing this could be ever so well done, yet there were other obstacles hardly to be surmounted. To be sure it is very evident, that whatever is the position of the body or limb, the same it must be represented in the figure, provided the dimensions of the parts are accurately marked. But there are some parts which can be put into proper positions and measured; such as the head, arms, hands, legs, and feet: and others which cannot; as the trunk, and neck. By this means it must happen, that these last must be expressed in an improper position, unless it be left to the skill of the engraver to correct, which I did not chuse to do, for fear of a mistake, as he could not demonstrate to me that he was sure of doing it right. And provided they could all have been put into proper positions, yet if upon searching and handling the muscles, or from any other cause, the first position of the part should in the least be changed, it appeared hardly possible to replace it in such a manner, as that every thing should exactly correspond to those which had been before taken off. Besides, as was sufficiently evident, one and the same body could never do for the whole, and others would either not correspond, or, if they should, could they be put so exactly into the same situation, as that all the dimensions could be accurately expressed. Hence it appeared plain, that what I wanted was something more than even the best anatomists trouble their heads about, it being usual for them to make only random figures of the parts, without considering either the orders, dimensions, continuations, or connexions of them with one another. Which figures although they may be useful, nay extremely useful, yet they are deficient in many things which ought to be supplied, and render them perfect; which in every thing is the hardest to be done. But why need I insist any longer on this subject? It appeared very evident, that I must pursue another method, and either drop intirely my intended scheme, or find out some certain rule by which to make my figure. And as human bodies, though they differ from one another in a great many things, yet agree in the whole; I

must pitch upon something that is common to them all, as the basis or foundation to build my figures upon. And this is the skeleton: which being a part of the body, and lying below the muscles, the figures of it ought first to be taken off, as a certain and natural direction for the others. It was proper therefore to begin with the figures of the skeleton, and to these the figures of the muscles were to refer. For the figures of the skeleton being first constructed, as in most men at least, of whatever size or make, the muscles are connected and posited with the bones almost in the same manner, and in the same places; it must consequently happen, that the muscles may be referred to these figures, even in other bodies, very different from one another, provided they are not deformed, if they are engraved as belonging to the figures of the bones in these bodies. There likewise occurred to me another use of the above rule, *viz.* that by the figures of the muscles being constructed in this manner, a great many of the muscles themselves could be found out by them in the living subject, and the situations of almost all of them. For in the first place, by the assistance of the figures of the skeleton, it would be no difficult matter to know a great part of the bones in the living body, and such of them as could not be thoroughly discovered, their situations and positions might be clearly understood, or sufficient hints given in order to discover them; and these being once known, and examined, we should have it in our power to judge how the muscles are situated with respect to the bones, as in the figures. And besides, the figures of the skeleton and muscles being constructed, the figures of the viscera might be referred to them; and to these, after they were constructed, the figures of the arteries, veins, nerves, &c. might likewise be referred. For as architects, having first laid a certain foundation, upon it build the edifice, together with all its parts; so we may consider the muscles connected to the skeleton, as to the foundation; the viscera, and other parts in their proper situations: then the nerves, veins, and arteries, properly disposed, and whatever else is necessary towards the construction of the human fabrick. It is by far the best way then for art to imitate this method, which nature has pointed out. And this has made me discover, that *Eustachius* in his tables has followed a plan of somewhat the same nature.

Leaving therefore these first rudiments, as sufficient only to discover and teach what was to be done, I immediately set about contriving the figures of the skeleton. And in order to make them good as a foundation for the others, it was requisite they should be accurate, and represent the skeleton from which they were taken to the life. But that every part of the bones might appear distinct in the figures, it was necessary they should be cleaned as carefully as possible, and therefore separated from one another; and how to join them again accurately was the difficulty. Neither was it possible to be certain that they were right joined together again, unless by comparing them with the natural state; and how this could be done, was not easily determined. Besides if it was, it might easily be conjectured, that though they should be conjoined again naturally in general, yet it could not be done with that exactness which I wished for, so as to make the other parts accurately correspond. Add to this, that by cleaning the cartilages of the joints sufficiently, they must either be destroyed, or at least very much hurt; and therefore when they are joined again, the articulations will not be so fit as they were before. And the more deficient that the former figures of skeletons were in this respect, I thought myself obliged to be at the more pains to find a remedy for it. After ruminating for some time about a proper method, it came into my head, that the readiest way of effecting what I desired, was to prepare a fresh skeleton in such a manner, as to leave the ligaments of the joints intirely whole; and after an exact figure had been taken of it in that shape, to cut and remove the ligaments, and so have those parts which were hid by them added to the figure. And this method seemed to be extremely natural. But I foresaw in my mind, that it would be a very laborious task, to make a skeleton of that kind; and a difficult matter, after it was prepared, to keep it in proper order. Besides I was afraid, lest, as the taking a Draught of such a skeleton would require a considerable time, in the mean while, partly by the drying of the cartilages and ligaments, and partly by putrefying, it should be very much spoiled, and I myself mortified. Wherefore I thought proper to try it first in separate members of the skeleton, in some of which it succeeded well enough; as in the hands, feet, and joint of the thigh. In others again I met with much more difficulty; as the ribs, and back-bone; but however there were hopes of overcoming these obstacles. Encouraged therefore by the success which I met with, about the latter end of the year 1725, happening to meet with a proper subject, I prepared a skeleton, such as I have mentioned above. But the ligaments being naturally weak, and adhering but loosely to the bones, it required a good deal of skill to manage it, so as to keep the bones in their proper positions. To dry the ligaments, so as to render the skeleton rigid, was not proper to be done, for fear of disfiguring the conjunctions of several of the bones, and spoiling the cartilaginous crusts of the joints; nor, if it had been proper, ought it to be attempted, till the skeleton was first put into such a position, as I intended it should be in when the figure was to be taken of it. In order to this then, I proceeded in the following method. As the feet were not able to support the trunk, because they were neither stiff, nor could the pelvis rest firmly enough upon the heads of the ossa femoris, I determined first to support the lower part of the trunk in such a manner, as I could incline it a little which ever way I pleased, if there was occasion for it. For this purpose I ordered a tripod to be made,

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with the feet at a moderate distance from one another, and from the top of it, at that part where the feet are joined together, there rises an iron stalk, which soon divides into three branches, bended at a moderate distance from each other, one of which is shorter than the other two, which are of an equal length; but all of them towards the top for the length of a cubit bended first outwards, in order to support whatever is laid upon them; and then upwards, to keep what is laid from falling off. The whole tripod is higher, than to allow the feet of the skeleton to reach quite to the bottom of it, and therefore to the table upon which it is placed; while the inferior part of the trunk rests upon it. This tripod I put upon a low table, whereby the lower part of the skeleton, and especially the feet, might more easily be drawn; for if I had placed it upon the ground, it would have obliged the engraver to stoop too much, in order to get a right view of those parts. I then placed the lower part of the trunk upon the tripod, so as that the cartilaginous conjunction of the ossa pubis should rest upon the top of the shortest branch and the lower parts of the ilia, before the os sacrum, upon those of the two longest; having taken care before to have those branches bent in such a manner as to receive and keep firm these parts of the trunk, and that the shortest branch should be only as much shorter than the others, as I chused to place the lower part of the conjunction of the ossa pubis below the lower parts of the ilia, which rested upon the longer ones. Having laid this firm foundation, the trunk was first to be raised, together with the neck and head. But I thought proper to begin with the trunk, as being stronger and firmer than the neck and head. To this purpose then I tied a cord to the upper part of the spine, where it is firm and less flexible, and pulling it up straight to the ceiling of the room, I passed it through a ring which I had fixed into the ceiling, and then fastened the end of it to a hook which was drove into the wall. By drawing this cord I raised the trunk as much as I could, but in such a manner as to let the lower part of it rest upon the tripod. Afterwards I took another cord and passed it under each of the cheek bones, one end of it under the right, and the other under the left, and the middle drawn towards the hind head near the neck, and then tied the two extremities over the head in form of a loop. Then to this loop I tied another cord, which I drew up to the ceiling, as I did the one from the spine before, passed it through another ring, and fastened it to a hook. This cord I drew as tight as I could, so as not to slacken the one that was fixed to the spine; and thus both the trunk, neck, and head, were raised up, but they could not be made so erect as not to decline a little. Therefore having tied several cords to the trunk, I drew them out in all directions to the walls of the chamber, and fastened them to hooks which I drove in on purpose, and by means of these cords, I kept the trunk every where equally firm. But as I had tied the two first cords, by which the trunk and head were erected, to the firmest part of the trunk, that is the spine, so I tied the other cords likewise to the same bone, being the basis as it were of the trunk, and whose motions the ribs follow. The reason why I tied them to the upper part of the spine was, that thereby I might command the whole spine the better. And I tied them immediately below the neck, because the backbone in that part is very firm; for if I had tied them to the neck, as its joints are very moveable, they would have rendered it crooked. The fixing of the trunk being finished in this manner, I proceeded next to that of the arms. To this end I tied a cord round the conjunction of the clavicle with the upper process of the scapula, and with that I raised it up as much as was requisite, suspending the whole arm by this means to the ceiling; while by other cords running across, I kept the scapula firm, so as neither to incline too much backwards nor forwards. Having secured both the arms firm in this manner, I tied a cord to the lower part of the right radius, and by means of it, kept the whole arm at a proper distance from the trunk. Then I tied another cord to the lower part of the left os humeri, and with the help of it I raised the left arm up. Another cord I fastened to the ulna of the left arm, and with that I made the wrist incline gently downwards. The feet and legs I made firm in the following manner. The right leg I placed straight, so as to support the trunk; but as the heel did not touch the table upon which the tripod was placed, I thrust in a bit of board between it and the table, so thick as just to make the foot stand firm, and at the same time not to raise the pelvis from the tripod, by pushing the leg too high up. Then I put under the rest of the foot boards of an equal thickness, so as to make it stand firm and even. Next I tied a cord round the lower part of the thigh-bone, and fastening it to the wall backwards, made firm the knee. In much the same manner, I fixed the left leg and foot; only the knee was a little bended, the heel lifted up, and it rested gently upon the extremity of the foot, on that part which is near the root of the great toe. Thus having finished the fixing of the skeleton in general, the next thing to be done, was to render the position perfect. And this I did partly both by inclining, and raising, the pelvis; partly by tightening, and slackening, the cords, and increasing the number of them; and partly by pieces of board, paper, pasteboard, &c. which it is not necessary to mention in particular. I next looked out for a thin man, of the same size with my skeleton, and making him stand naked in the same position, I compared the skeleton with him, especially the hip-bone, spine, thorax, scapulae, and clavicles; because if these parts were put into proper positions, there would not be any great difficulty in the rest. Having corrected those things which wanted to be corrected, according to the method above explained, I examined the skeleton carefully for some days after, and by making small alterations, by means of tightening or slackening the cords, and otherwise, as I saw occasion, I tried whether it could not be still rendered more complete. And after I had done this, I compared it again

with the naked man, that in case I had erred through excessive carefulness, I might then correct it.

As soon as I had finished the position of the skeleton, my next care was to have an exact figure made of it. I foresaw that the figure would be very incorrect, and disappoint my design, if it was taken off by merely viewing the original, as engravers commonly do. For it must necessarily happen, that the engraver must err, and therefore would neither make such a figure of the skeleton as I wished for, nor such a one as I could not only hope to be, but absolutely confide in, as a proper foundation for drawing the muscles upon. But to measure the whole skeleton, and mark out the position, size, and figure of every part, was an infinite task, nor could it possibly be done without some certain infallible rule to direct the engraver. It was an easy matter indeed to confine the view by the help of a certain quadrate, composed of four wooden rulers formed into a quadrangle, having the intermediate space as large as the skeleton, and the whole equally divided into little squares, all of the same size, by means of small cords stretched out between. This being placed right before the skeleton, and the plate upon which the figure of the skeleton was to be drawn, divided by lines, in the same manner as the quadrate was by the cords, the engraver, in order to draw the skeleton, was to find out a proper place for viewing it through the quadrate, by means of a fixed hole, and not very large; which by applying his eye to, he could see what parts of the skeleton answered to certain cords of the quadrate, and in what manner; and accordingly make them correspond with the same lines of the plate. But here arose another difficulty. For in order that the engraver might see every part of the skeleton properly and distinctly, it was necessary that he should not be at too great a distance from it. I wanted however that he should view it at a distance little less than forty rhenish feet, as we call them; lest he should see several of its parts too obliquely. But it was impossible at that distance to see the small parts distinctly. Wherefore, that the engraver might be placed as near the skeleton as was necessary, and in the mean time have the same view of it as at the distance of forty feet, excepting the obscurity occasioned by that distance, I contrived the following method. I placed the quadrate before described, and which I call the larger one, right before the skeleton so, as that the cords touched the most eminent part of the skeleton. Before this, at the distance of four feet, I placed another of the same kind, only the square spaces made less; upon which account I call it the lesser quadrate. These spaces I made a tenth part less in this than in the other; because the distance of four feet was just a tenth part of that, which I designed it should be viewed at. I placed then these quadrates in such a manner, as that the corded part of each should be equally distant from each other, that they should stand perpendicular, and the cords of the one, correspond to those of the other, the center of both being opposite the middle of the left breast of the skeleton. These things being thus ordered, the engraver placing himself in the most proper situation near the skeleton, for viewing it, endeavoured to make some point where the cords of the lesser quadrate decussated one another, coincide to the eye with the corresponding decussating point in the cords of the greater one; and that part of the skeleton which was directly behind these points, he drew upon his plate, at the point of decussation of the lines of it, corresponding with the decussating points of the quadrates; for I had divided the plate into squares by cross and straight lines, as I had divided the larger quadrate by cords. And in this manner proceeding through all the decussating points of the cords, behind which any part of the skeleton was observed, he drew the parts of the skeleton marked by these at the corresponding decussating points of the lines of the plate. Afterwards he could continue in the plate those parts of the skeleton which intervened between the points, so as upon account of the smallness of the spaces not to err remarkably, at least not so much as to deserve to be censured. According to this method then (which as it answered the intention, so it occasioned an incredible deal of trouble to the engraver) a fore view of the skeleton was first drawn as it stood. It was drawn then with the ligaments keeping the joints tight. Afterwards the ligaments being so far cut, and the joints so far opened, as was necessary for viewing the articulations of the bones, the engraver added these to the figure. Then having untied the little cords which kept firm the skeleton, as well as the two ropes by which it was kept erect, one of them going from the upper part of the spine, and the other from the head, to be fastened to the ceiling, I turned it about together with the tripod, so as to have the back part of it drawn; which was done in the same manner as the other. The ligaments of the joints I cut, so, as that although they were divided in the fore part, yet they were sufficiently entire to keep the joints together, and to preserve the skeleton in a proper order, till a side view was taken of it; and this was done the same way as the other two, as soon as the back view was finished.

In the mean time, while these three figures of the skeleton were a drawing, though the greatest application possible was given, as they could not be finished in less than three months, it was necessary to take care, that the skeleton should not suffer from drying or putrefaction, nor be hindered from going on from the same causes. Sometimes then, when it dried too much, I moistened it with water, and cutting the ligaments, poured it into the joints, in order to preserve the cartilaginous crusts; and again, when the putrefaction was to be checked, I sprinkled it with vinegar; wrapped it up in the night time with paper, and cloths dipped in the same liquor; and poured some of the same wherever there was room for it. During the time that the first figure was a taking off, a hard frost coming on, the whole skeleton was frozen, which was the best thing that could happen both for keeping it firm, and preventing the putrefaction. And if that figure could

have

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have been finished before the thaw came, upon untying the cords, I could easily have turned the skeleton, quite rigid with the frost, in order to the drawing of the second figure. But the thaw coming on sooner than I could have wished, it both began sooner to spoil, and gave me a great deal of more trouble. It was hurt likewise by the fire, which we were obliged to have always when the naked man stood; for he neither could nor would stand without it.

In these three figures, the posture of the skeleton, together with the position and connexion of all the bones, were accurately expressed; but their figure and outward appearance only in general. For the remains of the ligaments were an obstruction to this, besides other things which the bones could not easily be cleared from. And indeed though they could have been perfectly cleared, it would not have been well judged to have taken up the time in doing it, especially as they would have required a great deal, and I could do it afterwards at my leisure, and have figures taken of them. Having then taken down the skeleton, my next task was to clean the bones very neatly, so as that nothing about them might be spoilt. After I had cleaned them, I deferred having the figures of the skeleton finished from them, till I had figures of each of them engraved separately of the natural size. I put it off upon this account too, that, by making of these figures, the engraver might prepare himself for drawing the others, when I had a mind to have them done. Having finished these, I returned again to the figures of the skeleton in the year thirty-three. The first thing I took care of was, to reduce them from the natural size to that which you see in the cuts. Then the engraver, having examined all the bones in that position in which they stood in the figures, supplied whatever he found deficient in the figures, and amended whatever he thought done with less accuracy. And now I began to be confirmed in my design of publishing, which was my chief intention in taking so much pains about those figures, provided they all answered to my mind; and I was desirous to have them engraved, as I hoped it would make them appear still more elegant. They were engraved, and chiefly after the bones themselves, that so they might be both more perfect and neat.

They shew the skeleton standing in an erect posture, and proper attitude. The limbs I have put into such attitudes and positions, as that the order and connexion of both the bones and muscles may in general appear to the most advantage; and, if I was to proceed, even the bowels themselves, as also the arteries, veins, nerves, &c. The posture of the first and second is the same; the first representing a fore view of the skeleton, and the second a hind one. These two figures answer to each other; by which means you have a view all round the skeleton. The third figure is added to give a fuller view of the side; upon which account the posture of this is different from that of the others. But, with regard to the postures of each, the following particulars are to be taken notice of: The skeleton in the first and second figures stands firm upon the right foot, resting but very gently upon the left. The right foot rests upon the heel, and upon the anterior heads of all the bones of the metatarsus, especially of that which belongs to the great toe, the sesamoid bones in the mean time intervening. The toes are bended downwards, as it were to catch hold of the ground; and by this it stands the firmer. The extremity of the foot is turned outwards, as it naturally is in that posture, when the foot stands most firm. The right knee is strait. The patella rests upon the hollow in the middle between the condyles of the femur, in the same situation as it naturally has when the knee is strait, and itself pulled up by the rectus, vasti, and crureous muscles. The leg is inclined a little outwards over the extremity of the foot, the joint of the ankle, with the heel-bone, being a little bended. Hence the extremity of the foot rests full upon the ground, and the heel is in the same perpendicular line with the head; by which means the position is rendered more firm. This is likewise assisted by the thigh-bone being gently inclined the same way; and at the same time corresponding with the tibia in such a manner as to form a kind of angle with it, but a very obtuse one, and obtuse at that part mentioned above. The left foot, which is turned from the right sideways, and a little forwards, rests only, and very gently, upon the anterior head of the metatarsal bone of the great toe, by means of the sesamoid bones. The left knee is moderately bent, and the patella is situated in the hollow made for it between the condyles of the femur. Thus the right foot alone sustains the weight of the pelvis, which is situated obliquely, the left side being lowest, because the left foot is turned farther out than the right, and yet touches the ground. And because the left foot is likewise stretched a little forwards, so the left side of the pelvis is inclined forwards likewise a little more than the right. The trunk above the pelvis is turned towards the right, just enough to keep up the equilibrium. The whole spine then is bended towards the right. It is likewise twisted as it were a very little towards the left, excepting only the neck; so that though the left side of the pelvis is inclined a little more forwards than the right, yet the thorax may nevertheless be directed strait forwards. The neck on the contrary is turned towards the right, and the atlas with the head inclined the same way, as much as was necessary to give the face a gentle direction to that side. Further, the position of the pelvis is such, as that the whole upper brim is placed obliquely, chiefly indeed upwards, but likewise remarkably forwards. Wherefore the os sacrum descending from the loins is directed a little backwards, and from it the coccyx is inclined forwards, and bended the same way. The loins above the os sacrum are first remarkably crooked, then presently become straighter, incline gently backwards, and are hollow towards the back part; by which means they support the thorax the better. The spine of the back, inclining likewise backwards, is gently bended at its upper part, but contrary from that of the loins; and hence the thorax is prevented from inclining too much forwards. The neck rises from the back moderately bend-

ed, and supports the head so, as that the face may be sufficiently prominent forwards. The thorax with the spine is bended a little to the right. Hence the ribs on the right side are placed nigher together; the upper ones inclined a little downwards, and the lower ones upwards. On the other hand those on the left side are at a greater distance from one another; the upper ones inclining upwards, and the lower ones downwards. Wherefore the thorax externally according to its whole length is prominent on the left side; and in the right, below the middle, moderately hollow. Hence the lower ribs of the right side, by being more erect, have their anterior extremities more distant from the spine than these of the left. The right arm is almost pendulous, only a very little raised; whereby the position of the scapula is strait, and that of the clavicle almost quite transverse. But the scapula is pressed a little backwards, and together with it the clavicle, where it supports the scapula; by which means the chest is more openly exposed. The left arm again is raised up higher; whereby the clavicle, at that part upon which the upper process of the scapula rests, rises up together with that bone; and the scapula is a little turned, in such a manner, as that its lower angle is directed to the left side. The right elbow is straight, as also the radius and ulna; and the hand on the same side hangs open. The left elbow again is a little bent, the radius turned round the ulna as much as possible, and the hand turned with it. So much for the postures of the first and second figures.

In the third table the figure is in a walking position. This likewise stands on the right foot, the left only touching the ground with the extremity of the great toe; upon which account it is a little bended upwards, as in walking, when we want to bring the hind foot forwards. Farther, the right foot rests upon the heel, and the anterior extremity of the metatarsal bone of the great toe, by means of the intervening sesamoid bones; and upon these it chiefly stands, as also upon the anterior extremities of the metatarsal bones of the little toes. The right knee is straight, like that of the first figure, with the patella raised up in the same manner, and for the same reason, so as its lower part only rests upon the hollow between the condyles of the femur, and its upper part upon the thigh-bone above that hollow. The left knee is a little bent; and therefore the patella of this rests with its upper part in the hollow between the condyles. Hence its point is directed towards that eminence of the tibia, to which the ligament that goes to the patella is inserted. The pelvis, the same way as in the first and second figures, is supported entirely upon the right foot; and the left side of it is lower than the other. The spine above the pelvis is turned a little to the right side; whereby the thorax in its fore part is somewhat inclined the same way. The position of the face is more direct; both because the neck is more bended forwards, and besides the atlas with the head is turned considerably that way. The upper brim of the pelvis is directed upwards and forwards, the same as in the other figures; and the os coccygis with the lower part of the sacrum bended forwards. The loins immediately above the os sacrum are remarkably crooked, but presently become straighter, are gently inclined backwards, and hollow on the back part. The back-bone above the loins inclines also backwards, is gently bended at top, and hollow on the fore part. Above this rises the neck, bended a little forwards. The left arm is lifted up, whereby the scapula is somewhat turned, so that its upper part is directed a little backwards, and its lower angle forwards. But as the right arm hangs down, and is likewise turned backwards, hence the basis of the right scapula is kept at some distance from the ribs, especially at its lower angle. But I have explained the position of the figures sufficiently; for what remains in all of them may easily be understood only by viewing them. All the joints are large, and very well adapted, their cartilaginous crusts having been carefully preserved.

I proceed next to explain what sort of skeleton I made use of, to have the figures taken from. I chused it of that age in which the bones are arrived at their full growth and firmness; that is, when the epiphyses are plainly continued into the bones, of which they are a part; nor can the bones be said to be compleat before. It was of the male sex, of a middle stature, and very well proportioned; of the most perfect kind, without any blemish or deformity, either as to the bones themselves, or their connexions with one another. And as skeletons differ from one another, not only as to the age, sex, stature and perfection of the bones, but likewise in the marks of strength, beauty, and make of the whole; I made choice of one that might discover signs both of strength and agility; the whole of it elegant, and at the same time not too delicate; so as neither to shew a juvenile or feminine roundness and slenderness, nor on the contrary an unpolished roughness and clumsiness; in short, all the parts of it beautiful and pleasing to the eye. For as I wanted to shew an example of nature, I chused to take it from the best pattern of nature. But as even those skeletons, which may be reckoned the best, are different from one another, and I intended only to exhibit one of them; I proposed that that one should be an example for the others. And I cannot help congratulating my good fortune in this respect, for happening upon a body, which as it promised, so likewise it contained such a skeleton as I wanted. Yet however it was not altogether so perfect, but something occurred in it less compleat than one could wish. As therefore painters, when they draw a handsome face, if there happens to be any blemish in it, mend it in the picture, thereby to render the likeness the more beautiful; so those things which were less perfect, were mended in the figures, and were done in such a manner as to exhibit more perfect patterns; care being taken at the same time that they should be altogether just. This then is the manner and history of the figures of the skeleton. From which, I think, it may easily be understood, that by this method it is possible to express the perfection of nature, at least to come

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very near it: but it is not possible to produce any skeleton so perfect as these figures represent; at least, it is plain that it cannot be done so easily. For where is the anatomist, who, after having cleaned the bones perfectly well, and consequently has cleared away all the ligaments with which they are connected, and partly covered, preserving at the same time the cartilaginous crusts of the joints, can propose to join them together again in such a manner, as that the whole shall be perfectly just and elegant?

After these figures were drawn, I farther intended, as soon as they should be engraved, to add the muscles to them; and, pushed on both by a love of the work, and an earnest inclination to improve anatomy, to try if I could perfect what I had conceived in my mind. Neither did I set out upon this unprovided. And indeed, as there is a great number of muscles intimately blended with other parts of the body; and as a great many difficulties must frequently occur, if you want to examine them all, not superficially, but fully and accurately; as they differ greatly and frequently from one another in different bodies; as very few bodies are proper subjects for one who is in search of the most perfect in its kind; while at the same time it was requisite that the engraving should be retarded as little as possible: therefore it was absolutely necessary, to provide every thing for the work that I possibly could. From the time then that the first draughts of the skeleton were taken off, every year, with the consent of my pupils, and whenever an opportunity offered besides, I traced the muscles carefully, in order to observe their position, connexion, figure, thickness, and substance. And, according as more and more bodies occurred, either confirmed what I had before observed, or added whatever I found to be different. In this manner I proceeded every year. And as it is always better to prevent things to the view, if possible, than to trust to descriptions of them, I was at pains to preserve all of them I could, in order that I might be assisted by them afterwards. I took care especially to preserve in a proper liquor, that they might receive no damage, the bones and other parts to which the muscles are connected, whether they are said to arise from, or be inserted into them, together with the extremities of these muscles joined to them, and these all picked from the best subjects, which therefore I could consult whenever there was occasion. And as I had now a great number of scattered observations, I began to digest them, that I might have every thing in readiness. Which being done, I intended to compose from them a history of the muscles, making choice chiefly of those which I found the most frequently, and which I thought answered most the intention of nature. And though I designed to insert nothing into that history, but what the book of nature presented to me, yet I thought it would be of service to consult the books of anatomists, and not only those of the best, but likewise of others which I could purchase; that I might be informed if I had passed over any thing, which was remarked by them, worthy to be taken notice of. And even since that system of myology has been published, I have not neglected to add whatever improvements dissections have since suggested to me.

Thus prepared, and with firmer resolution, and more sanguine hope, I began to add the muscles to the figures of the skeleton in the year thirty-eight. For this purpose it was proper to use the out-line figures only; for those which were engraved were not so fit, upon account of the shades rendering obscure whatever should be added. But here I observed a fault in making the plates of the skeleton, which ought to be prevented. In-gravers, in order to take off a figure done upon paper, and engrave it upon a copper-plate, first of all draw the opposite side of the paper with powder of ceruss, then they lay that side of it carefully upon the plate, fitting it to it according as the position of the figure requires, and then they fasten it. Afterwards by drawing a needle along the lines of the figure, and impressing them gently, and just enough upon the plate, they order it so, that when the paper is removed, the lines appear upon the plate, by the impression made in the ceruss. But after the figure is finished, when the plate is engraved, it happens that what was represented on the right, in the figure upon the paper, is engraved on the left upon the plate, and *vice versa*. If therefore any certain order of the muscles should be added to the out-line figures of the skeleton engraved upon paper, and these again laid upon a copper-plate in order to be engraved, according to the method above-mentioned; the right and left orders of the muscles would not answer to the right and left sides of the skeleton. This was easily corrected by engraving the out-line figure of the skeleton upon a plate, in the usual way, and then having taken an impression of it upon paper (which I shall call the original) taking an impression of this upon another paper, so as to have a figure directly contrary to the other with respect to the sides, or right and left; and so using this contrary one (which I shall call the copy) to draw the muscles upon; and these being drawn, it was laid upon the copper-plate, and so engraved; and thus the figure which was cast off from this plate, was contrary to the copy, and therefore answered to the original, which was wanted. But here I was retarded by another obstacle. In order that the figures may be well engraved, it is necessary that the paper should be sufficiently macerated. But when the sheets thus wetted, *viz.* the original and the copy, are put into the press together, it happens that being squeezed between two cylinders (which kind of press the engravers always make use of) they are not only pressed, but likewise extended; by which means the figures are rendered so much larger, that when the sheets are afterwards dried, they do not contract to their just dimensions. Wherefore, if I had used such copies of the skeleton to draw the muscles upon, the figures of the muscles would have been too large in proportion to those of the skeleton. To prevent this, I ordered dry paper to be used both for the originals, and for the copies; by which means they were indeed faintly and imperfectly engraved, especially the copies, but however not so

much, but they answered my purpose. But before I observed that fault of the copies which were engraved upon wet paper, the second classes of the muscles were added to a copy of that kind of the figure of the skeleton; and hence it happens, that the out-line figures of the posterior layers of the muscles are rather somewhat larger than they ought to be. But this I could well enough dispense with in these figures, seeing they were only engraved for the sake of the others which are shaded, and shew nothing but the bare out-lines together with the marks. But I corrected it in the shaded figures before they were engraved; for these were all engraved after the others, and all the out-line figures were transposed upon the copper-plates, which the shaded figures belonging to them were to be engraved upon. And I corrected it in this manner. I took care that the paper made use of for the originals of the out-line figures, upon which the posterior layers of the muscles were to be engraved, should be dry: but that used for the copies I ordered to be wetted. By this means the paper of the original figure, which was dry, was not extended by the force of the press, and therefore the size of the copy immediately after it was engraved, as well as that of the original, was the same with the size of the figure upon the copper-plate, with which the original was stamped. But the paper of the copy being wetted, contracted itself upon drying, and consequently the figure which was stamped upon it. Wherefore, by repeated experiments, I found at last what maceration was exactly sufficient for the paper upon which the copies were to be engraved, so that, after they were cast off, it should contract itself just enough to render the figure of a proper dimension. And these copies which I had corrected after this manner, I made use of for the posterior classes of the muscles, which were to be transposed upon the copper-plates for engraving the shaded figures. Hence however I know, that when the cuts were quite engraved, and ready to be published, though the figures in all the copper-plates were of an equal size, it was scarce possible but in the cuts they must be more or less unequal: For as the paper upon which they are engraved is of a looser or firmer texture, and as it is more or less softened by means of the maceration, so it contracts itself more or less after it is dried.

The muscles appear connected to the out line copies of the skeleton, in the same manner as they are to the skeleton in the dead Subject. And likewise the other parts to which muscles belong, as well as to the skeleton; as the os hyoides, the larynx, the tongue, &c. are connected the same way to the figures of the skeleton, and the muscles connected to them again. At the same time I added the history of the muscles, together with remarks, which were subjoined after it was published; having recourse every now and then to those observations above mentioned, which I had formerly put in writing, concerning the muscles. Nor was there any thing taken but from bodies themselves. And wherever they manifestly and remarkably differed from what I had more frequently observed in others, those things were supplied from other bodies. And as this succeeded according to my mind, though it retarded the work, there arose a new difficulty. It was downright impossible for me to draw the figures of most part of the muscles from one and the same body, and far less those of them all: on the contrary it was very evident, that it would require some years, and a great many bodies must be made use of for the purpose. It is very true, that the muscles of any of these bodies might well enough be adapted to the figures of the skeleton; but as some bodies are more brawny or fleshy than others, nor could I hope having it in my power to get the others exactly like the first, it was a hard matter to contrive how muscles taken from subjects differing in that respect, and compared with one another, should be modified into a proper equality, and proportion with one another. This could not possibly be effected by means of the skeleton only. Therefore, besides it, there was some other certain standard to be found out; for to depend upon the judgment alone, was neither quite safe, nor did I at all approve of it. The chief thing to be done was to look out for large and thick muscles, especially for those of the trunk and neck, and most of all, the extremities. I endeavoured then all I could to draw the external class of the muscles of the trunk, neck, and extremities, all from the first body, within which were to be placed those taken from other bodies, at the same time adapted to the figure of the skeleton; and these too I took from bodies as like the first as possible. But, in drawing the external classes of the muscles, it was difficult to find out the proper position of them with respect to the skeleton, because the most part of the skeleton was covered by them. Although then a great deal of care was taken, yet afterwards, as the inner classes, by the skeleton's being more exposed in them, shewed what was to be done, the external classes were to be corrected. For to connect the muscles accurately with the figures of the skeleton, I must have done them all separately, and if so, I could not easily have placed them in proper order with one another. In order to this, it was proper to begin with the external, which upon doing I found very difficult, as I just now mentioned, to place them justly with respect to the skeleton, which was almost quite covered with them; and it was likewise no easy matter to draw those properly, which lie in a great measure concealed under others. Both these difficulties were then got over, by beginning with the external class first, and so proceeding from that to the more internal, and again afterwards correcting the external, according as the internal shewed what was to be done.

Great care was taken in raising and exposing the muscles, that they should not be spoiled. In order to prevent this, I used bodies that were fattish, whenever such were requisite, in which the muscles are preserved by the fat; and of this I take away no more than was quite necessary, that a right view might be had of the part that was to be drawn, leaving the rest untouched,

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untouched, to preserve the muscles not dissected. In many parts it was necessary to trace and draw the muscles at the same time, especially those, which if I had attempted to dissect and expose entirely, it would have been a very difficult matter, and next to impossible, to have kept them from spoiling: and I was frequently obliged to call in other helps besides. Thus, in order to draw the coracohyoideus muscle, which is the thirty-fifth figure of the eleventh table, I first laid bare the external part, and drew it, then afterwards the internal part of the beginning of it; to expose which distinctly, I dissected away the fat exceeding clean, without hurting the muscle, leaving only what was necessary to keep it from shrinking, and at the same time could not obstruct the figure. The concave and convex sides of the diaphragm, as they are represented in tables fourth, and fourteenth, cannot be seen both at one time in the body. For to have a view of the concave side, the abdominal viscera, which obstruct it, must be removed; and for the convex again, the thorax must be laid open. But if you open the thorax, after having taken out the abdominal viscera, or the abdomen, having first emptied the thorax; in either case, the diaphragm becomes flaccid, and its figure is spoiled. Wherefore, having emptied the abdomen of its contents, I first exposed the convex side of the diaphragm, and, as soon as that was drawn, I put them all in again, in order to support it; and then opening the thorax, I added the convex part of the figure; to finish which I made use of another body, the thorax of which I opened first, keeping the belly entire, whence the diaphragm was supported by the abdominal viscera. There were a great many other muscles very troublesome to represent right; as those of the anus, and especially those of the pharynx, palate, uvula, and face. However, by means of contrivances of this kind, there are a great many things, if I am not mistaken, very justly represented; some of which can very hardly, and others not at all, be exposed so plain in bodies themselves. But it would take up too long a time to discover, what and how many methods I made use of, to have every thing represented as perfect and distinct as possible.

The bodies which I used were those of adults, and such of them only as were most proper for the purpose. The muscles again were such as most frequently occur; only I picked out those that I judged the most perfect, and in best condition. But it would be an endless task to trace all those differences which appear in different bodies, in the same manner as the features. And although, passing over all trifling varieties, I had only taken notice of such as are remarkable, I should have found it no easy matter to come to a close. Neither was it proper to insert many of these into a general system of the muscles, although they were even remarkable, and frequently occurred. Some of them however are inserted. There are a few muscles inserted which rarely occur, as the psoas parvus; and likewise a muscle of the bladder, which I have very seldom seen. And altho' I have endeavoured to examine all the muscles fully and accurately, and likewise to have them expressed in the same manner; yet I have neglected some circumstances which appeared less material. For example, there are some muscles a little tendinous at their beginning, or extremity, which do not appear so in the figures. Neither are there certain fissures expressed, through which the smaller arteries, veins, and nerves penetrate, together with other things of the same nature, which partly did not seem to be of any great consequence, and partly would render more or less obscure the figure, and general symmetry of the muscles; besides that, I thought them less agreeable to that simplicity which I endeavoured after. And certainly it is proper in things of that nature, when reason requires it, always to confine ourselves to certain bounds, not to be trespassed. Here the situation, figure, size, origin, insertion, cohesion, fleshy and tendinous nature, and the general course of the fibres, to which their direction might be referred, were the chief circumstances to be taken into consideration about the muscles.

There are two kinds of tables, in which I have comprehended the whole work. The one contains the general connexion and disposition of the muscles all over the body; the other again contains the figures of each of them. The first, the same as the skeleton, gives a fore, a back, and a side view of the whole. And it exhibits the muscles according to their different classes: first the most external, then those next below, and so forth; and the following is always a continuation of the preceding. But as the fore and back views of the body are always the fullest, and by comparing these two together, you can generally guess the sides; therefore the different classes are exhibited before and behind. To these however I added the external class of the side, that it might appear fuller and more distinct, than can be conceived from comparing the fore and back parts together; and this the position of the muscles seemed to require. This one at first I thought would be sufficient, as from it the general disposition of the muscles there might be well enough understood; especially if the classes on the fore and back parts were compared, besides the figures of the single muscles, if occasion required. But as some of those which are situated in the neck, and under the head, could not be better exposed, neither from before nor behind, nor in any other position; therefore there are some classes exhibited laterally. For the same reason I have added views of the muscles in the sole of the foot, and in the cavity of the orbit. But as according to the various situation and position of the parts, and the different view of them, the order of the muscles is really different, or appears to be so, and of this there is an infinite deal of variety; so the figures may be multiplied to an infinite number. But I have made choice of that position which I thought the most proper. And as it is impossible to hit upon one where there is not some part or other less conspicuous, I chose that in which the muscles in general are most exposed. And of this sort there might still be a great many more figures. But as those few which I have given,

are, in my opinion, sufficient to shew the order of the muscles in general; and whatever more is required can easily be supplied by comparing the general figures with those of the single muscles, therefore I thought it needless to add any more. Besides, I avoided too great a number, for fear of confusion. And it was much more difficult to reduce the muscles in general to a few orders, with perspicuity, than the multiplying of those could possibly have been. But as in those general figures it is impossible that the whole muscles should appear, excepting a very few, it was necessary to add compleat figures of each of them. And if I had multiplied the general figures so, as that there should not be a muscle in the whole body, that could not be found at full length in one or other of them; yet they could not all of them be known so distinctly, at least not so easily and readily, from those figures, as they are from the figures of the single muscles, in which the proximity of other muscles occasions no obscurity. Further, the general figures ought not to be large, in order that they may be perused at one view, and therefore scarce larger than they are in those tables; for it is possible for them to be too large to be conveniently inspected. This size was proper for sufficiently expressing most part of the muscles, even the small ones amongst them, as far as regards their general order and disposition. The larger muscles again, and even a great many of the small ones, might be plainly enough expressed in the same size, so as to be traced each of them distinctly; but there were several which could not, either on account of their smallness, or their situation with regard to the neighbouring ones. The light and shade too in the general ones could not so easily be expressed with simple lines, which are fitter for pointing out the course of the fibres, and with which the figures of the single muscles are drawn, as they are with decussated lines. It remained then that I should reduce the general figures to as few classes as possible, and make them as perfect as I possibly could; and, besides them, exhibit the single muscles separately.

In drawing the figures of the single muscles, I have followed the general ones wherever I could. And this I did, that the former might assist the latter, and make them be understood; as well those things which, on account of the contiguous or incumbent parts, are either less compleat in the general ones, or plainly not conspicuous, as those which could not be so well expressed in them. By this means too the whole is better connected. But where the position which I borrowed from the general figures was not sufficient, I have added others in another position, such as I thought proper. There are some muscles in the general figures, whose position is not so proper as I could wish, and some, no part of which can be made to appear in the most proper position. I could have multiplied the number of figures indeed, if I had wanted to exhibit every part of each of them, viz. externally, internally, and laterally, as there should be occasion. But I imagined it was better to take a little liberty here, and only exhibit those parts of them, which best answered the intention of this work. The figures of the single muscles are drawn twice as large as those of the general tables; by which means they are rendered fitter for expressing every thing more fully and accurately, especially those which are only small. And although the large muscles did not require that, yet I have observed the same rule in them, that so there might be the same proportion in all. But those muscles which belong to the internal ear, being so very small, are expressed in the natural size. They are all likewise figures of entire muscles; except a few of maimed ones, which were obliged to be added, in order to expose to view some things remarkable. But as to their composition, and those appearances which their internal structure exhibits to our view, I did not think proper to insert any thing in this volume, which is already swelled to a sufficient bulk.

I have not only studied the correctness of the figures, but likewise the neatness and elegance of them. For this end I employed an artist very skilful, both in drawing and engraving. And he happened to be one, which is very seldom the case, who was very fond of doing things in that way; which disposition I encouraged, by giving him whatever he demanded for his trouble. For a great many years by-past, he has worked for very few besides myself; and for these last ten (most part of which he has been wholly employed in these tables) almost for me only. And he both drew and engraved them all by my direction. In the first place I endeavoured to make him understand, as well as possible, what was to be drawn; and I was constantly with him, to direct him how every thing was to be done, assisting him in the drawing, and correcting what was drawn. And thus he was instructed, directed, and as entirely ruled by me, as if he was a tool in my hands, and I made the figures myself. Afterwards too, when he came to engrave them, there was a great deal of care required, lest any thing should be done amiss in taking off the figures upon the copper plate; and frequently I had to advise him in what manner the parts were to be engraved. And when after all this pains he happened to go wrong, I examined the figures after they were engraved, and what faults I observed he rubbed out, and corrected very exactly. For the chief care was, to express every thing as correctly and distinctly as possible. The engraver besides employed all his art, both in the out-lines of the figures, in the light and shades, in the symmetry of the parts, and in their different appearance. He studied dignity in the out-lines, distinctness, force, grace, and harmony in the light and shades, so that every thing might appear full and distinct; and at the same time the whole figure, though composed of several parts joined together, might no where be interrupted, further than nature has observed in those parts; in the symmetry, a certain harmony and equality, which ought to discover itself amongst all the different parts; and in the outward appearance, the distinction and difference between bone, flesh, tendon, cartilage, &c. in short, in the whole figures the greatest perfection. To the general

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figures he has added ornaments, not only to fill up the empty spaces of the tables, and make them appear more agreeable; but likewise that by the shading of those ornaments upon the margins of the tables, the light and shades of the figures might be preserved, and heightened, and the figures themselves appear more raised or rounded; and though they are composed of several parts, and thereby consequently must be interrupted, that nevertheless they might seem to be entire. This required a considerable deal of skill; and though it was not easily done in any of the other tables, it was still more difficult in those of the skeleton. But whoever wants to examine how this is executed, will know it best by looking at the tables, at a proper distance, through his hand placed before the eye in the manner of a spy-glass, so that the surrounding light may not hinder the viewing them distinctly. And, I hope, to a person who observes them attentively, these ornaments will be found to have no bad effect, in making him discover less readily what is expressed in the figures themselves.

In order therefore that the beauty of the figures might not be hurt, it was proper not to add any marks to them, by which the several parts should be pointed out in the text. For besides that they would have bespotted the figures, so to speak, they would have obscured several things, and obliterated not a few, seeing many things are so small, that these marks would have covered them entirely, or almost so. Besides, of those of them which were to have been placed in the shades, the most part could not easily have been discerned, and several of them hardly at all. For this there is found a remedy, by adding the out line figures, and putting the marks to them: which has this advantage, that in the out-line figures the bounds and terminations of the different parts are very readily distinguished; and therefore they remove any doubt which might arise in the shaded ones, either from the smallness of the part, or the manner of the shades, or the engraving, which cannot be prevented. But these marks are added to the figures of the single muscles, because they shew them almost all singly, and of larger dimensions, and themselves are engraved all in one line; they could likewise be easily added, and easily discerned. Neither do they hurt those figures so much, seeing it was not necessary to be at so much pains about them. Besides, the bones, and other parts which are exhibited with the muscles, whereby you may know with what parts they are contiguous and connected, are only expressed in out-lines; not only because that was sufficient for the purpose, but that thereby the whole bodies, and terminations of the muscles, might appear the plainer. Neither are the muscles themselves, in these figures, drawn with less art than in the others, whether as to their limits, the light and shades, or the distinction of their tendinous and fleshy fibres. The manner too of engraving is different in these, and they have this to recommend them, that they are expressed in simple lines,

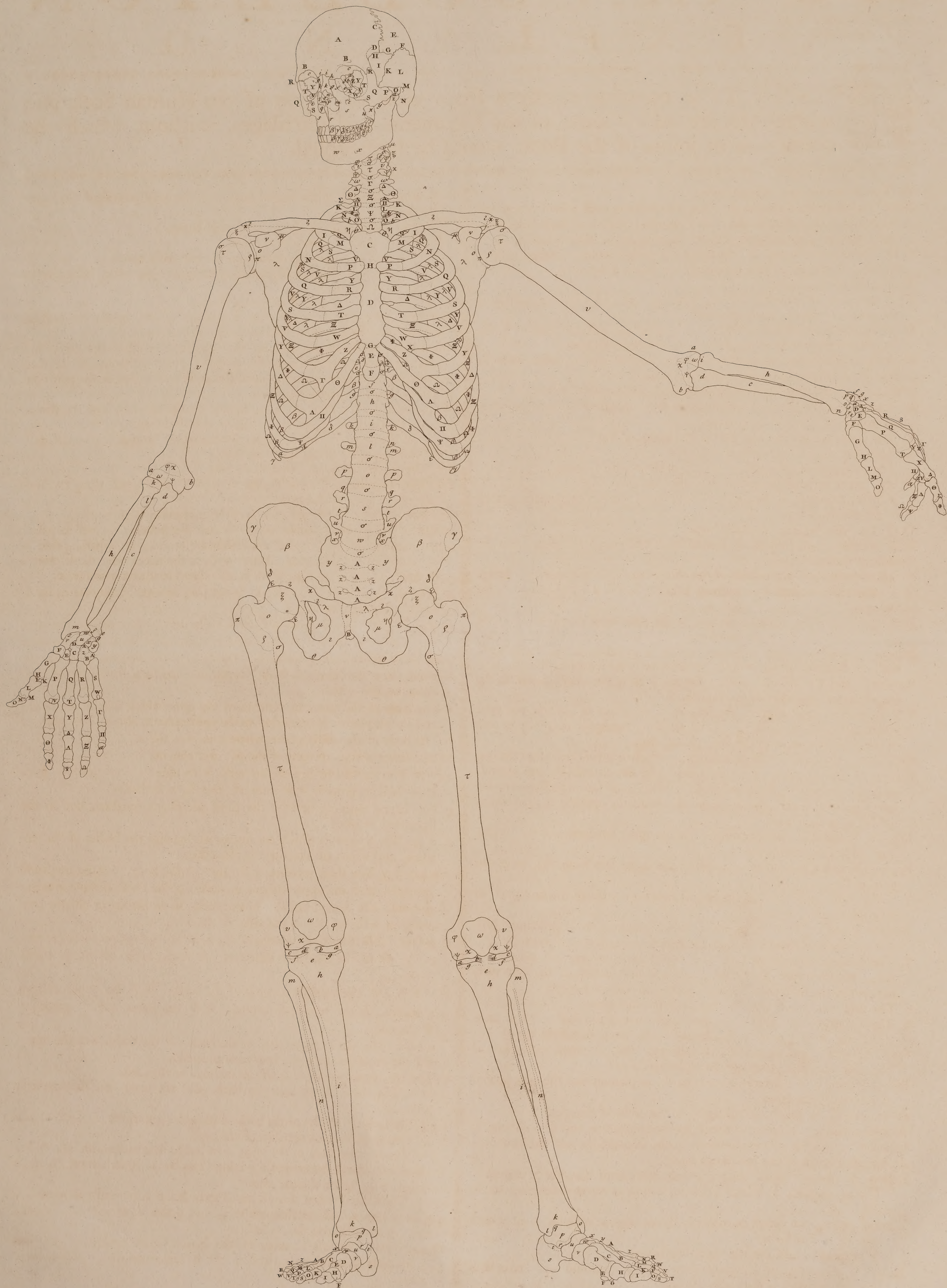
without any cross ones; which simplicity was made use of, in order to point out the course of the fibres more distinctly. But this is only expressed in general; neither did I think it necessary to pursue the fibres minutely, and shew how they are compounded. For besides that this could only be done justly in part, I was of opinion, that the exact course of the fibres was rather to be looked for in the general system of figures.

For adding the marks I employed a skilful engraver, who could do it with judgment; so as to put them in their proper places as exactly as possible, and answer both in size and fulness to those figures to which they were to be annexed; whereby they might both accurately point them out, and be conspicuous themselves, at the same time being no obstruction to any thing; and especially, that they should not obscure smaller parts too much. I took care too that the tables should be impressed as well as possible, which is of the greatest consequence for the elegance, force, and beauty of the figures, as every body versed in engraving must know. Wherefore I both used the fittest paper, in which a great deal depends, and employed a very skilful and experienced workman. As to the explanations of the tables, they are short, in the form of an index; which I thought was sufficient: though those that belong to the single figures are a little fuller. The rest, the history of the muscles will explain.

This is all I have thought necessary to say concerning the nature of this work. Though he will best understand it, and he will find it no easy task neither, who engages in an affair of the same kind. It may possibly be thought, that I should have treated particularly of those things, which, besides such as have been enlarged upon by the best hands before me, they might expect I should explain, after all the pains, labour, and expence which I have been at, and which are indeed greater than can well be imagined. But as to such as love and cultivate this study, if they sufficiently consider what I have said above, they will readily understand what I intended. And if any one should sincerely desire to know, in what, besides directing every thing according to the rules above mentioned, I differ either in the figures, descriptions, or any thing else, from former anatomists, or what I have either corrected, or added, although he may find it out upon making a comparison, I thought I might be allowed to pass that over. It is possible enough that I might have bestowed my labour, which in such a number of things was certainly very great, to a still better purpose. But whoever imagines, that that accuracy and perfection, which I have so earnestly endeavoured after, was needless and unnecessary, I would have him to consider, what the greatness and dignity of such a work required, besides a necessary usefulness. And I do not doubt but they will be less surprized, that I esteem these tables so much the more useful, not only the more just, but likewise the more beautiful, and more finished that they are found to be.



TAB. I.



THE FIRST ANATOMICAL TABLE OF THE HUMAN SKELETON EXPLAINED.

THIS first Table contains chiefly a front view or figure of the Human Skeleton; whereunto are added some of the Ligaments and Cartilages, without which the connexion or joints of the Bones would be interrupted.

In the head.

- A The os frontis, or forehead bone.
 BB The superciliar foramina or holes, transmitting each a small artery and nerve out of the orbit, to the frontal muscles: the left of these holes is entire; but the right is partly absent, forming only a kind of notch.
 C D The coronal future. C the part of it which makes a serrated or true future: D the part which is squamose or like a fish-scale.
 E The left parietal bone.
 F A squamose or scale-like future, which is formed by the conjunction of the parietal with the temporal bone.
 G A squamose future formed by a meeting of the parietal bone with the largest lateral process of the multiform or sphenoidal bone.
 H A squamose future, formed by a conjunction of the os frontis with the largest lateral process of the multiform bone.
 I The largest lateral process of the multiform or sphenoidal bone.
 K A future common to the os squamosum or temporale with the largest lateral process of the multiform bone.
 L The squamose or scale-like part of the temporal bone.
 M The bony entrance or passage of the ear.
 N The mastoid or mammillary process of the temporal bone.
 O Zygomatic or jugal process of the temporal bone.
 P A future common to the jugal or cheek bone, with the zygomatic process of the temporal bone.
 Q Q The ossa jugalia, or cheek bones.
 R R Sutures which conjoin the frontal bone with the cheek bones, near the ends of the eye-brows.
 S. S. Sutures formed by the union of the cheek bones with the upper jaw bones.
 T T. Parts of the cheek bones which help to form the orbits or sockets for the eyes.
 Betwixt T and W is a future formed in the orbit by a conjunction of the cheek bone with the upper jaw bone.
 Betwixt T and c: T and c appear futures in common to the cheek bones with the forehead-bone, within the orbits or holes for the eyes.
 Betwixt T and Y: T and Y appear futures joining the cheek bones to the largest lateral processes of the multiform bone.
 V V A channel appearing in the bottom of the orbits or holes of the eyes, which opens to the cheek (at t) and transmits the upper maxillary branch of the gustatory nerve to the lips, palate, &c.
 W X Part of the upper jaw bone belonging to the bottom of the orbit of the eye. Betwixt W and X appears a future running by the channel V, and extended along the bottom of the orbit of the eye. This future passing over the lower margin of the orbit is extended toward the opening the said channel (at t) in the cheek.
 Between X and d is a future common to the upper jaw bone and the os planum (d) of the multiform bone.
 Between X and e is a future common to the upper jaw bone and the os unguis (e. f.)
 Y Y The orbital surfaces of the largest lateral processes of the multiform or sphenoidal bone.
 Betwixt Y and c: Y and c, appear futures common to the largest lateral processes of the multiform bone with the frontal bone, in the orbits of the eyes.
 Z The foramen lacerum or hole thro' which the third pair of nerves of the brain, together with the fourth, sixth and first branch of the fifth pair, pass out of the skull into the orbit for the muscles of the eye.
 a The thin process of the multiform or sphenoidal bone.
 b The hole thro' which the optic nerve passes out of the skull into the orbital cavity, accompanied with a branch of the internal carotid artery.
 Betwixt a and c appears a future within the orbit, common to the frontal bone with the thin process of the multiform bone.
 Between a and d is a future common to the os planum and the thin process of the multiform bone.
 cc Parts of the frontal bone belonging to the orbits of the eyes.
 Betwixt c and d is a future common to the os planum and frontal bone.
 Between c and ef is a future common to the frontal bone with the os unguis.
 d The os planum of the multiform bone.
 Betwixt d and e is a future common to the os planum with the os unguis.
 ef The os unguis; in which f denotes a sinus or cavity belonging to the nasal canal.
 Betwixt f and g is a future common to the os unguis with the nasal process of the upper jaw bone.
 g g The nasal processes of the upper jaw bones.
 Betwixt g and k: g and k appear futures common to the nasal bones with the nasal processes of the upper jaw bones.
 h A future common to the frontal bone with the nasal process of the upper jaw bone.
 i i Sutures common to the frontal and nasal bones.
 k k The ossa nasi, or bones of the nose.
 Betwixt k and k is a future common to the two nasal bones.
 l The interior part of the nasal process of the upper jaw bone, belonging to the cavity of the nose.
 m. m The lower turbinated or spongy bones.
 Betwixt l and m, on the right side, is a future formed by the conjunction of the lower spongy bone with the upper jaw bone.
 n o A thin plate of the ethmoidal or sieve-like bone which makes part of the (septum narium) partition of the nostrils. o the extremity of the said bony plate which joins to the cartilaginous or gristly part of the partition.
 p The os vomer or plow-share bone.
 Betwixt n and p is a kind of future formed by the connexion of the vomer (p) with the plate of the ethmoidal or cribriform bone.
 q Part of the upper jaw bone, which belongs to the bottom of the nostrils.
 r A future common to the upper jaw bones.
 s. s The upper jaw bones, next the cheeks.
 t. t The foramina or holes of the channels (V V) which pass along the bottom of the orbits of the eyes.
 u The pterugoide or winged process of the multiform bone.
 w x y z The lower mandible or jaw bone. x a hole out of which pass a nerve of the fifth pair and blood-vessels to the chin, after passing thro' a canal within the jaw. y the acute process. z the neck of the obtuse process or head, by which the mandible is articulated to the temporal bone.
 α The cartilage in the joint of the lower jaw, interposed betwixt its head, and the temporal bone.
 β. γ. δ. ε. ζ. η. θ. ι. β. γ. δ. ε. ζ. η. θ. ι. The left teeth in each of the jaws. β. β the first of the incisive or cutting teeth. γ. γ the second incisive teeth. δ. δ the canine or dog-teeth. ε. ε the first of the grinders. ζ. ζ the second. η. η the third. θ. θ the fourth. ι. ι the fifth, (call'd dentes sapientiae) or eye-teeth.
 x The body of the atlas, or vertebra of the spine which sustains the head; in this place it is connected to the epistrophæus, or next vertebra.
 λ The body of the epistrophæus where it sustains the atlas.
 μ The lower oblique process of the fifth vertebra of the neck.
 ν ξ ο π The fourth vertebra of the neck. ν its upper oblique process. ξ its lower oblique process. ο its transverse process. π its body.
 ς The lateral opening betwixt the third and fourth vertebra; but in the figure is marked e.
 σ. σ &c. The ligaments which are interposed betwixt the bodies of the vertebrae, and which tie them one to the other.
 τ υ υ φ φ χ The third vertebra of the neck. τ the body. υ. υ the transverse processes. φ. φ the upper oblique processes. χ the lower oblique process.
 ψ ψ ω ω Γ The second vertebra of the neck. ψ. ψ the upper oblique processes. ω. ω the transverse processes. Γ the body.
 Δ Δ Θ Θ Λ Λ Ξ The first vertebra of the neck. Δ. Δ the upper oblique processes. Θ. Θ the transverse processes. Λ. Λ the lower oblique processes. Ξ the body.
 Π Π Σ Φ Φ Ψ The twelfth vertebra of the back. Π. Π its upper oblique processes. Σ the transverse process. Φ. Φ the lower oblique processes. Ψ the body.
 Ω α α β β The eleventh vertebra of the back. Ω the body. α. α the upper oblique processes. β. β the transverse processes.
 c The transverse process of the sixth vertebra of the back.
 d d e e The third vertebra of the back. d d the body. e e the transverse processes.
 f g g The second vertebra of the back. f its body. g g its transverse processes.
 h The body of the first vertebra of the back.
 i k k The fifth vertebra of the loins. i its body. k k its transverse processes.
 l m m n The fourth vertebra of the loins. l its body. m m its transverse processes. n its upper oblique process.
 o p p The third vertebra of the loins. o its body. p p its transverse processes.
 q q r r s The second vertebra of the loins. q q the upper oblique processes. r r its transverse processes. s its body.
 t t u u v v w The first vertebra of the loins. t t its upper oblique processes. u u its transverse processes. v v its lower oblique processes. w its body.

FIRST ANATOMICAL TABLE.

In the
thorax,
clavicles,
and sca-
pulæ.

In the
arms, fore
arms, an
hands.

I K The sesamoide bones (*i. e.* like sesamum seeds) fixed at the joint of the thumb with its metacarpal bone.

LM. LM The first bones of the thumbs. M the lower head incrusted with a smooth cartilage, by which it is articulated with the last bone of the thumb.

N A sesamoid bone placed at the last joint of the thumb.

○ ○ The last bones of the thumbs.

P. Q. R. S. T. : P. Q. R. S. T. The metacarpal bones of the hands: P the metacarpal bone of the index or first-finger. Q that of the middle-finger. R that of the ring-finger. S that of the auricular or little finger. T the lower head, incrufted with a smooth cartilage in the first joint of the finger : and the fame holds in the reft of thefe bones.

V W Small sesamoid bones sometimes found at the first joints of the index and little finger.

X. Y. Z. Γ. Δ: X. Y Y. Z. Z. Γ. Δ The first phalanx, order or row, of bones in the fingers. X that of the index. Y that of the middle finger. Z that of the ring finger. Γ that of the little finger. Δ the lower head, covered with a smooth cartilaginous crust, at its articulation or joint with the second bone of the finger: the same holds also in the rest of the fingers.

⊙. Λ. Ξ. Π. Σ. ⊙. Λ. Ξ. Π. Σ The bones in the fingers of the second phalanx or order. ⊙ that of the index. Λ that of the middle finger. Ξ that of the ring-finger. Π that of the little finger. Σ the lower head, incrustated with a smooth cartilage, and jointed to the third or last bone of the finger: and so in the rest of these bones.

Φ , Ψ , Ω , α : Φ , Ψ , Ω , α The bones of the third phalanx or last order of the fingers, Φ that of the index, Ψ that of the middle finger, Ω that of the ring finger, α that of the little finger.

β γ δ ε ε ζ η θ ι κ λ μ. β γ δ ε ε ζ η θ ι κ λ μ The innominate or basin bones, including three others. β γ δ the os ilium or flank-bone. γ the spine or ridge of that bone. δ a tubercle from whence arises the rectus or straight muscle of the thigh. ε ε ζ the ischion, or hich bone. ζ a sinus or notch through which pass the internal iliac, and great psoas or lumbar muscle. η the sharp-pointed process of the ischium. θ the tubercle of the ischium. ι ι κ λ the os pubis. κ the spine or ridge of the os pubis, from whence arises the pectineus muscle of the thigh. λ a tubercle, into which is inserted the lower and outer tendon of the double aponeurosis of the oblique external muscle of the abdomen. μ the great foramen or hole of this bone.

v A cartilage or gristle interposed betwixt the bones of the pubis, and connecting them together.

ξ ο π ρ σ τ υ φ χ ψ. ξ ο π ρ σ τ υ φ χ χ ψ ψ The thigh bones. ξ the
 head incrusted with a smooth cartilage. ο the neck. π the greater trochan-
 ter or spoke. ρ a rough protuberance to which is fixed a ligament that se-
 cures the joint of the hip. σ the less trochanter or spoke. υ the outer con-
 dyle of the lower head. φ the inner condyle. χ a sinus or cavity incrusted
 with a smooth cartilage next the joint of the patella or knee-pan bone. ψ
 far extends the smooth cartilaginous crust that covers the condyles or lower
 heads of the thigh bone, at its juncture with the tibia, or great bone of
 the leg.

ω. ω The patellæ or knee-pan bones.

a b. a b The interior femilunar cartilages in the joints of the knees: at b b backwards, these turn into ligaments, and are inferted into the tibia.

c d. c d The outer femilunar cartilages, turning to ligaments in the back part of the joint d d, which are inferted into the tibia.

e f g h i k l. e f g h i k l The tibia or great bones of the legs. e the upper head. f g smooth cartilaginous incrustations covering the top of the tibia next the femur, in the joint of the knee. h the protuberance into which is fixed the ligament of the patella, fastening that bone to the tibia. i the spine or edge of the tibia. k l its lower head. l the inner angle.

m n o. m n o The fibulæ or slender bones of the leg. m the upper head
n the spine or ridge. o the lower head, which makes the outer angle.

p q r. p q r The astragalus or cockal bone. q the smooth cartilaginous crust that covers its convexity next the bones of the leg to which it is jointed. r a like crust covering its head or fore part.

s t. s t The calcanei or heel-bones. t the part that sustains the neck of the astragalus.

u u The navicular bones of the tarsus or ankle.

v v The greater cuneiform bones of the tarsus.

w w The small cuneiform bones of the tarsus.

x x The middle cuneiform bones of the tarsus.

y The cuboide or cubical bone of the tarsus.

z. A. B. C. D. E: z. A. B. C. D. E The bones of the metatarsus or instep
z that of the fourth or little toe. A that of the third. B of the second. C
of the first, and D of the great toe. E a smooth cartilaginous crust that
covers the lower head at its juncture with the first bone of the great toe
which crust is also in the rest of these bones.

F. G: F Sefamoide bones placed at the junctures of the great toes with their metatarsal bones.

H. H The first bones of the great toes.

I. I The last bones of the great toes.

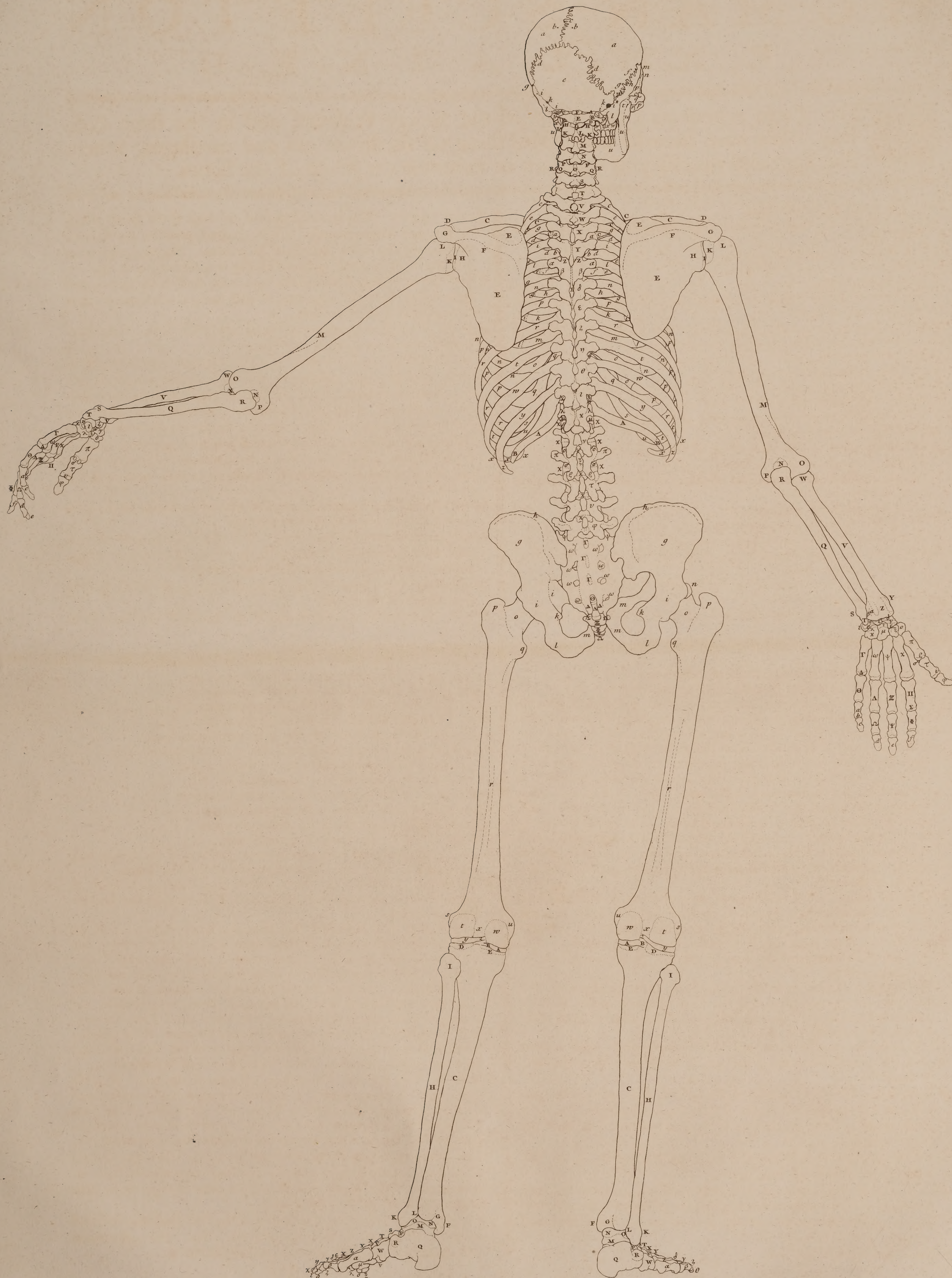
K. L. M. N : K. L. M. N The bones of the first phalanx or order of the smaller toes. K that of the first toe. L of the second. M of the third, and N of the fourth or little toe.

O. P. Q. R: O. P. Q. R The bones of the second phalanx or order of the smaller toes. O that of the first toe. P that of the second. Q of the third and R that of the fourth or little toe.

S. T. V. W: S. T. V. W The bones of last phalanx or third order of the smaller toes. S that of the first toe, T that of the second, V of the third and W of the fourth or little toe.



TAB. II.



THE SECOND ANATOMICAL TABLE OF THE HUMAN SKELETON EXPLAINED.



HIS Table represents a back-view of the former Skeleton, and in the same Position. We have likewise here added some of the ligaments and cartilages, where they appeared necessary to make up or continue the joints of the bones.

In the
head and
spine.

- a. a The vertical or parietal bones.
- b. b The vertical foramina or holes transmitting small veins to the longitudinal sinus.
- c The sagittal or longitudinal future.
- d d The lamdoide or occipital future.
- e The occipital bone.
- f The squamose future formed by a conjunction of the scaly part of the temporal and parietal bones.
- g. g True futures, formed by a conjunction of the mastoide or dug-like processes of the occipital bone with the parietal bones.
- h The os squamosum, or scaly part of the temporal bone.
- i i. i Appendages of the lamdoide future.
- k. k Foramina or holes, thro' which pass branches of the internal jugular veins, to the lateral sinusses of the dura mater.
- l. l The mastoide or mammillary processes of the temporal bones.
- m The frontal or forehead bone.
- n A future formed by the conjunction of the jugal with the frontal bone, near the extremity of the eye-brow.
- o A future made by the conjunction of the jugal process of the temporal bone with the cheek-bone.
- p p The os jugale or cheek bone.
- q The jugal process of the temporal bone.
- r Os maxillare superius, or the upper jaw-bone.
- Between r & p is a future formed by a conjunction of the jugal or cheek-bone with the upper jaw-bone.
- s A cartilaginous plate interposed betwixt the joint of the lower jaw with the temporal bone.
- t u u u u The lower jaw or mandible. t the head which is jointed to the temporal bone.
- w. w Those parts of the upper jaw-bones which sustain the palate or roof of the mouth.
- The teeth in the jaws appear evidently of themselves.
- x x The styloide or pointed processes of the temporal bones.
- y z A B C D D E The atlas, or uppermost vertebra, that sustains the head. y y its transverse processes. z a hole in the transverse process. A an arch or curvature found in some bodies: and this, with the sinus thro' which the vertebral artery is inflected behind the body of the atlas, makes the hole B, thro' which that artery penetrates into the great cavity of the vertebra; as at other times it passes thro' a sinus or notch, marked C in the left side. C a sinus or notch in that part of the body of the atlas where it sustains the head; thro' which sinus the vertebral artery bends it self, when it is about to enter the great spinal cavity of the vertebra. D D the lower parts of its body, by which it is connected to the epistrophæus. E a rough protuberance, which is instead of a spinal process, and from whence arise the (musculi recti postici minores capitis) smaller, posterior, straight muscles of the head.
- F G H H I I K K L The epistrophæus, or vertebra upon which the head and atlas turn laterally. F its axis. G the inner part of its body. H H the two vertices or turning points which sustain the atlas. I I the transverse processes. K K the lower oblique processes. L the spinal process.
- M N Two of the vertebrae of the neck. M the fifth. N the fourth in order, counting upwards.
- O P P Q Q R R The third vertebra of the neck. O the spinal process. P P the upper oblique processes. Q Q the lower oblique processes. R R the transverse processes. From hence the parts of the other vertebrae of the neck may be likewise understood.
- S T The two lower vertebrae of the neck. S the second, and T the first in order.
- V W X Y Vertebrae of the back. V the twelfth. W the eleventh. X the tenth. Y the ninth.
- Z Z α α β β γ The eighth vertebra of the back. Z Z its upper oblique processes. α α the transverse processes. β β the lower oblique processes. γ the spinal process. From this the parts of the other vertebrae of the back may be understood.
- δ. ε. ζ. η. θ. ι Vertebrae of the back. δ the seventh. ε the sixth. ζ the fifth. η the fourth. θ the third. ι the second.
- κ λ λ μ μ μ The first vertebrae of the back in which λ λ denote the transverse processes, as if they were inflected behind the junctures of the upper oblique processes of this vertebra with the lower oblique processes of the second vertebra. μ μ μ its body.
- ν The fifth vertebra of the loins.

- ξ ο ο π π ς ς σ σ σ The fourth vertebra of the loins. ξ the spinal process ο ο the upper oblique processes. π π the transverse processes. ς ς the lower oblique processes. σ σ σ the body of this vertebra. The parts of the other vertebrae of the loins may without difficulty be understood from this.
- τ. υ. φ The remaining vertebrae of the loins. τ the third, υ the second, and φ the first of them, reckoning upwards with Albinus, which is contrary to the custom of British anatomists.
- χ. χ &c. The ligaments that are interposed betwixt the bodies of the vertebrae and connect them one to the other.
- ψ ψ ω ω ω ω ω ω ω ω Γ Γ Γ Δ Δ Θ Λ The os sacrum or great bone of the spine. ψ ψ the upper oblique processes. ω. ω. ω. ω. ω. ω. ω. ω the posterior foramina or holes. Γ Γ Γ the spinal processes. Δ Δ the lower oblique processes, with which are conjoined the upper oblique processes of the first bone of the coccyx. Θ the body of the fourth of those vertebrae which compose the os sacrum. betwixt Θ and Λ is a bony part which was formerly a ligament, intervening and continuous with the bodies of the fourth and fifth of these false vertebrae. Λ the body of the fifth vertebra of the os sacrum.
- Betwixt Λ and Ξ is a ligament, interposed between the bottom of the os sacrum and coccyx, and tying them together.
- Ξ Π Σ The first bone of the os coccygis. Ξ the body. Π the transverse process; the fellow to which is also in the other side. Σ the upper oblique process; the fellow to which is also in the other side.
- Betwixt Ξ and Φ is a ligament that ties together the bodies of the first and second bones of the coccyx.
- Φ Ψ Ω The lower bones of the coccyx, Φ the second, Ψ the third, Ω the fourth.
- a a b b The sternum or breast-bone.
- c c d d. c c d d The first or uppermost ribs. d d the cartilaginous part.
- e e e f. e e e f The second ribs. f the cartilaginous part.
- g g h. g g g h The third ribs. h the cartilaginous part.
- i i k. i i k The fourth ribs. k the cartilaginous part.
- l l m. l l m The fifth ribs. m the cartilaginous part.
- n n n n o o. n n n n o The sixth ribs. o the cartilaginous part.
- p p p p q q. p p p p q q The seventh ribs. q the cartilaginous part.
- r r r s. r r r s The eighth ribs. s the cartilaginous part.
- t t t u. t t u The ninth ribs. u the cartilaginous part.
- w x x. w x x x The tenth ribs. x the cartilaginous part.
- y z. y z The eleventh ribs. z the cartilaginous part.
- A B. A B The twelfth rib. B the cartilaginous part.
- C C C C. C C C C The clavicles or collar bones.
- D D Cartilaginous plates fastened betwixt the junctures of the clavicles with the acromia or upper processes of the scapulae or shoulder blades.
- E E F G H I. E E F G H I The scapulae or blade-bones. F the spine. G the acromion or upper process. H the neck. I the cartilage that lines the cavity of its neck.
- K L M N O P. K L M N O P The humeri or bones of the arms. K the head incrusted with a smooth cartilage where it is jointed or received into the cavity of the scapula. L the greater unequal protuberance of the upper head. M a sinus or groove thro' which the brachial artery, vein and nerve pass along. N a sinus or cavity that receives the olecranon or head of the ulna when the fore-arm or cubit is extended. O the lesser condyle, and P the greater condyle or protuberance in the lower head of the humerus.
- Q R S T. Q R S T The ulna or greater bone of the cubit. R the protuberance of its upper head, call'd the olecranon or elbow. S its lower small head that sustains the radius. T the pointed process of its lower head.
- V V W X. V X Y Z α β The radii or less bones of the cubit. W X the upper head. X the circumference or rim of the upper head incrusted with a smooth cartilage which moves in the concavity of the ulna. Y the sinus which contains the tendons of the long abductor of the thumb, and of the less extensor. Z a sinus that receives the tendons of the outer radial muscles. α the sinus or groove that conducts the tendon of the larger extensor of the thumb. β the sinus or groove that conducts the tendons of the common extensor of the fingers, with that of the extensor proper to the little finger, and to the index or first finger.
- γ δ ε. γ The navicular bones of the wrists. δ the small head incrusted with a smooth cartilage where it is jointed to the radius. ε the head covered with a smooth cartilage that meets the multangular bones.

In the
thorax
and upper
extremities.

SECOND ANATOMICAL TABLE.

ζ. ζ The lunar bones, that in the right hand appears covered with a smooth cartilaginous crust where it is jointed to the radius.
 η θ. η The ossa triquetra or cuneiform bones of the wrists. θ the part covered with a smooth cartilage which is jointed with the unciform bone (κ λ)
 ι. ι The ossa subrotunda, pisiformia, or pea-like bones.
 κ λ. κ λ The unciform bones of the carpus. λ the surface incrustated with a smooth cartilage that is jointed with the cuneiform bone (η).
 μ ν. μ Ossa magna vel capitata, the great or round headed bones of the wrists. ν the round head incrustated with a smooth cartilage by which it is jointed to the lunar and navicular bone.
 ξ. ξ The trapezoide or less of the multangular bones in the wrists.
 ο. ο The trapezoid or great multangular bones of the carpus.
 π ρ. π The metacarpal bones of the thumbs. ρ the lower head covered with a smooth cartilaginous crust, where it is jointed to the first bone of the thumb, and with the sesamoide bones. The same is also true of the left thumb.
 σ. σ The sesamoide bones placed at the joint of the thumb with its metacarpal bone.
 τ υ. τ υ The first bones of the thumbs. υ a smooth cartilaginous crust that covers the lower head where it is jointed to the last bone of the thumb.
 φ. φ The last phalanges or bones of the thumbs.
 χ. ψ ω. Γ Δ: χ. ψ. ω. Γ Δ The bones of the metacarpus or hand. χ that of the index or first finger. ψ that of the middle finger. ω that of the ring finger. Γ Δ that of the little finger. Δ the cartilaginous crust that covers its lower head where it is jointed to the bone of the first phalanx or order. The same holds in the rest of these bones.
 Θ Λ. Ξ Π Σ: Θ. Λ. Ξ. Π The bones of the fingers of the first phalanx or order. Θ that of the little finger. Λ that of the ring finger. Ξ that of the middle finger. Π Σ that of the index or first finger. Σ a cartilaginous crust covering the lower head, where it is jointed to the bone of the second phalanx: the same likewise holds in the other fingers.
 Φ. Ψ. Ω. α β: Φ. Ω. α The bones of the fingers of the second phalanx or order; Φ that of the index. Ψ that of the middle finger. Ω that of the ring finger. α β that of the little finger. β part of the lower head at its joint with the bone of the third and last order, incrustated with a smooth cartilage. The like in the other fingers.
 c d e f: c d e f The bones of the fingers of the third and last phalanx or order.
 g h i k l m m. g h i k l m The ossa innominata or haunch bones. g h the os ilium, hip or flank bone. h its spine or edge. i the ischium or hitch bone. k the sharp process of the ischium. l the tubercle or seat of the ischium. m the os pubis.
 n o p q r s t u w x. o p q r s t u w x The thigh bones. n the round head, which being incrustated with a smooth cartilage is received or jointed into

In the pelvis and lower extremities.

the acetabulum or cavity of the haunch bone. o the neck. p the great trochanter or spoke. q the less trochanter. r the linea aspera or roughness that is extended down the backside of the thigh bone. s t the outer condyle or protuberance of the lower head of the femur, of which t denotes the part belonging to the joint of the knee, covered with a smooth cartilaginous crust. u w the inner condyle; w the part of it that belongs to the joint of the knee incrustated with a smooth cartilage. x the sinus or cavity betwixt the condyles.
 y y The exterior semilunar cartilages which end in ligaments that are inserted into the head of the femur and tibia in the joint of the knee, z z.
 A A the interior semilunar cartilages, inserted in the joint of the knee; and affixed to the tibiae or greater bones of the legs B B by their extremities, turned into ligaments.
 C D E F G. C D E F G The tibiae or greater bones of the legs. D E parts of the upper head of the tibia which being incrustated with a smooth cartilage belong to the joint of the knee. F the inner angle. G a sinus or groove thro' which pass the tendons of the tibialis posticus and long flexor of the toes.
 H I K L. H I K L The fibulae or slender bones of the legs. I the upper head which is fix'd to the tibia. K the outer angle. L the sinus or notch thro' which pass the tendons of the long and short peronei muscles.
 M N O P. M N O P The astragali or cockal bones. N O the smooth cartilaginous incrustation that covers its convexity; and N denotes that part which is jointed to the tibia; O that which is jointed to the os perone or fibula. P its head.
 Q R. Q R The calcanei or heel bones. R a protuberance at which the tendon of the peroneus longus muscle is inflected.
 S S The navicular bones of the tarsus or ancle.
 T T The less cuneiform bones of the tarsus.
 V V The middle cuneiform bones of the tarsus.
 W W The cubical bones of the tarsus.
 X Y Z α. X Y Z α The bones of the metatarsus or instep. X that of the first of the smaller toes. Y that of the second, Z of the third, and α that of the fourth or little toe.
 β. γ. δ. ε: β. γ. δ The bones of the first phalanx or order of the smaller toes. β that of the fourth or little toe, γ that of the third, δ that of the second, ε of the first.
 ζ. η: ζ The bones of the second order or phalanx of the smaller toes; ζ that of the fourth, η of the third.
 θ. ι. κ: θ The bones of the third or last phalanx of the smaller toes; θ that of the fourth or little toe, ι of the third, κ of the second.
 λ The first bone of the great toe.
 μ The metatarsal bone of the great toe.
 ν The greater cuneiform bone of the tarsus.
 ξ. ο The small sesamoide bones that are placed at the joint of the great toe with its metatarsal bone. ξ the inner, and ο the outer of these small bones.







THE THIRD ANATOMICAL TABLE OF THE HUMAN SKELETON EXPLAINED.



HIS Table represents a side-view of the same Skeleton, as before; but in a different attitude or position. And to this figure we have likewise, in some places, added ligaments and cartilages where they seemed necessary to continue the joints of the bones.

- In the head and spine.*
- A A The vertical or parietal bones.
 B The sagittal or longitudinal future.
 C C The vertical foramina or holes transmitting small veins to the longitudinal sinus of the dura mater.
 D D The lambdoide future.
 E The occipital bone.
 F G. G The mammillary processes of the temporal bones. F a protuberance from whence arises the digastric muscle of the lower jaw.
 H Two foramina or small holes; one in the mastoide process of the temporal bone, near the appendix of the lambdoide future: the other in the appendix it self of that future; thro' which last foramen a vein passes to the lateral sinus of the dura mater.
 I An appendix or addition to the lambdoide future.
 K A true future formed by a conjunction of the mastoide part of the temporal bone with the parietal bone.
 L The mastoide or mammillary process of the temporal bone.
 M The bony meatus or entrance of the ear.
 N The zygomatic or jugal process of the temporal bone.
 O The squamose or scaly part of the temporal bone.
 P The squamose future formed by a conjunction of the temporal with the parietal bone.
 Q R S The coronal future. Q that part which is a serrated or true future. R S that part of the frontal bone which like a scale shoots under the parietal bone R. S the multiform or sphenoidal bone.
 T The frontal bone.
 V The squamose future formed by the conjunction of the multiform bone with the parietal bone.
 W A future formed by the conjunction of the largest lateral process of the multiform bone with the squamose part of the temporal bone.
 X The largest lateral process of the multiform bone.
 Y A future common to the os frontis and cheek bone near the extremity of the eye-brow.
 Z Part of the os jugale or cheek bone in the temporal cavity.
 Below Z is a future common to the cheek bone with the upper jaw bone, in the temporal cavity.
 Betwixt Z and X is a future common to the cheek bone with the largest lateral process of the multiform bone.
 a The os maxillare superius, or upper jaw bone.
 Betwixt a and X is a slit or aperture that is left betwixt the upper jaw, cheek, and multiform bone.
 b The outer part of the os jugale, or cheek bone.
 c A future common to the cheek bone with the zygomatic process of the temporal bone.
 d The os maxillare superius, or upper jaw bone.
 e f g g The mandible or lower jaw. e its coronal or acute process. f its condyle or head that is jointed with the temporal bone. just above f appears the moveable cartilaginous plate that is interposed in the articulation of the lower jaw.
 h i The concave part of the left winged process of the multiform bone. i the little hook that supports and confines the tendon of the circumflex muscle of the palate.
 k l The basis of the upper jaw bone. k that part which forms the gums or sockets of the teeth. l that which is in the palate.
 m m m The teeth in each of the jaws.
 n o o p p q The atlas or uppermost vertebra. n the left part of its body, into which is received the coronoide process of the occipital bone, which sustains the head with a moveable joint. o o the two lower parts of its body by which it is fastened with moveable articulations to the epistropheus. p p the transverse processes. q the protuberance or inequality that is instead of a spinal process, and from whence arise the (recti postici minores capitis) the less posterior and straight muscles of the head.
 r r s t u The epistropheus or second vertebra of the neck. r r the two parts of its body which sustain the atlas or uppermost vertebra, with moveable junctures. s the transverse process in which is a foramen or small hole to give a passage to the vertebral artery and vein. t the lower oblique process. u the spinal process, the extremity or end of which is furcated or divided into two.
 v w x y z The fifth vertebra of the neck (if we reckon upwards, otherwise the third, if we count downwards, as is most usual). v its body. w its transverse process. x its upper oblique process. y its lower oblique process. z its spinal process.
- α α, &c. The ligaments interposed betwixt the bodies of the vertebrae and tying them to each other.
 β γ δ ε The lower vertebrae of the neck. β the fourth. γ the third. δ the second. ε the first. the parts or processes of these vertebrae are intelligible from the last explained.
 ζ η θ The twelfth or uppermost vertebra of the back. ζ the body. η the transverse process. θ the spinal process.
 ι κ λ The eleventh vertebra of the back. ι the transverse process. λ the spinal process.
 μ The transverse process of the tenth vertebra of the back.
 ν ν, &c. Openings made betwixt the vertebrae for the spinal nerves to come out, &c.
 ξ ο π ρ σ The spinal processes of the vertebrae of the back, ξ that of the tenth. ο of the ninth. π of the eighth. ρ of the seventh, and σ of the sixth.
 τ υ The fifth vertebra of the back. τ the spinal process. υ the body.
 φ χ ψ The fourth vertebra of the back. φ the body. ψ the spinal process.
 ω Γ Δ The third vertebra of the back. ω the body. Γ the lower oblique process. Δ the spinal process.
 Θ Θ Λ Ξ The second vertebra of the back. Θ Θ the body. Λ the upper oblique process. Ξ the spinal process.
 Π Σ Φ The first vertebra of the back. Π its body. Φ its spinal process.
 Ψ Ψ Ω The uppermost vertebra of the loins. Ψ Ψ its body. Ω its spinal process.
 A A Æ B C C D The fourth vertebra of the loins. A A the body. Æ the upper oblique process. B the transverse process. C C the lower oblique process. D the spinal process.
 E F G H I The third vertebra of the loins. E the body. F the transverse process. G the upper oblique process. H the spinal process. I the lower oblique process.
 K The second vertebra of the loins, the parts and processes of which may be understood from the last mentioned.
 L M The lowest vertebra of the loins. L its upper oblique process. M its spinal process.
 N O P The os sacrum or great bone of the spine. N the unequal or rough part of its side below the os ilium. O the third spinal process. P the lower oblique process which is jointed to the upper oblique process of the first small bone of the coccyx.
 Q R The first small bone of the coccyx. Q its upper oblique process. R its body.
 S T The lower small bones of the coccyx. S the second. T the third.
 V W X The first rib of the left side. V the first head or anterior part of its spinal end that is fastened into the body of the twelfth vertebra of the back. W the second head that is jointed with the transverse process of the same vertebra.
 Y Z a b The second rib of the left side. Y the first head that is fastened into a sinus or small cavity, common to the bodies of the eleventh and twelfth vertebrae of the back. Z the second small head that is jointed with the transverse process of the eleventh vertebra of the back. b its cartilaginous end.
 c The second rib of the right side.
 d d e The third rib of the left side. e its cartilaginous end.
 f f The third rib of the right side.
 g h The fourth rib of the left side. h its cartilaginous end.
 i i k The fourth rib of the right side. k its cartilaginous end.
 l m The fifth rib of the left side. m its cartilaginous end.
 n n o o The fifth rib of the right side. o o its cartilaginous end.
 p p q The sixth rib of the left side. q its cartilaginous end.
 r r s s The sixth rib of the right side. s s its cartilaginous end.
 t t u The seventh rib of the left side. u its cartilaginous end.
 v v w w The seventh rib of the right side. w w its cartilaginous extremity.
 x y The eighth rib of the left side. y its cartilaginous end.
 z z z 1. 1 The eighth rib of the right side. 1. 1 its cartilaginous end.
 2. 3 The ninth rib of the left side. 3 its cartilaginous end.
 4. 4. 4. 5. 5 The ninth rib of the right side. 5. 5 its cartilaginous end.
 6. 6. 7 The tenth rib of the left side. 7 its cartilaginous end.
 8. 8. 9 The tenth rib of the right side. 9 its cartilaginous end.
 10. 10. 11 The eleventh rib of the left side. 11 its cartilaginous end.
 12. 12. 13 The eleventh rib of the right side. 13 its cartilaginous end.

THIRD ANATOMICAL TABLE.

14. 15. 16 The twelfth rib of the left side. 14 its first head that is fastened to the body of the lowermost vertebra of the back. 16 its cartilaginous end.

17 The inner side of the right scapula or shoulder-blade.

18. 19. 20. 21. 22 The left scapula. 19 its neck. 20 the cartilaginous part that enlarges its neck, and covers the cavity into which the humerus is jointed. 21 the spine. 22 its acromion or upper process.

23 The left clavicle or collar bone.

24. 24. 24 The os pectoris or breast bone.

A B C D E F. A F G H The humeri or bones of the arms. A in the left humerus denotes a protuberance where the deltoide muscle is inserted. B C D the upper head. B the left protuberance of the upper head. C the greater protuberance of the upper head. Betwixt B and C is a sinus or groove wherein is lodged the tendon of the longer head of the biceps muscle of the arm. D a smooth cartilaginous crust that covers the part of the head which is jointed into the cavity of the scapula. E the left condyle of the lower head. F the head cover'd with a smooth cartilage with which the radius is articulated. G a convexity incrusted with a smooth cartilage to which the ulna is articulated. H the greater condyle.

I K L. I K L M The ulnæ or greater bones of the cubit. I the olecranon or elbow. L a small head, in its circumference incrusted with a smooth cartilage where it is articulated to the radius. M the styloide or pointed process.

N O P Q Q. N O P R S The radii or less bones of the fore-arm. O the upper head. P a tubercle at the back part of which the tendon of the biceps muscle of the arm is inserted, which bends the fore-arm towards the body when the palm of the hand is downwards. Q Q R S the lower heads. R a sinus or groove thro' which pass the tendons of the less extensor and long abductor muscles of the thumb. S a sinus or groove that is again partitioned into two, thro' which pass the tendons of the external radial muscles.

T V. T The navicular bones of the wrists. V the head incrusted with a smooth cartilage by which it is jointed to the multangular bones.

W. W The lunar bones of the carpus.

X Y The os triquetrum or cuneiform bone of the wrist. X that part which is incrusted with a smooth cartilage, where it is jointed to the ulna by a ligament that passes from the bottom of the head of the ulna to the bottom of the radius, where the latter is jointed to the ulna.

Z. Z The ossa rotunda or pea-like bones of the carpus.

a. a The trapezial or great multangular bones.

b. b The trapezoide or less multangular bones of the carpus.

c. c e The ossa magna vel capitata, the great or round headed bones of the wrists.

d. d e f The unciform bones of the wrists. e the part incrusted with a smooth cartilage where it is articulated with the cuneiform bone (X Y). f the unciform process.

g. g h The metacarpal bones of the thumbs. h a cartilaginous crust that covers the lower head where it is jointed to the first phalanx and the sesamoide bone. The same is also true in the right thumb.

i. i The sesamoide bones placed at the joint of the thumb with its metacarpal bone.

k. k l The first phalanx or bone of the thumb. l a cartilaginous crust covering the lower head where it is jointed with the last bone.

m. m The last phalanx or bones of the thumbs.

n. n. p. q. r: n o. p. r The metacarpal bones of the hands; n that of the index or first finger, p that of the middle finger, q that of the ring finger, r that of the little finger. o the smooth cartilaginous crust that covers the lower head of the metacarpal bone of the index, where it is jointed to the bone of the first phalanx: and the same holds of the rest of these bones in each hand.

s. t. u. v: s. t. u. v. w The bones of the first phalanx or order of the fingers: s that of the little finger, t that of the ring finger, u that of the middle finger, v that of the index. w a smooth cartilaginous crust that covers the lower head where it is jointed to the bone of the second phalanx or order: and the same also holds in the rest.

x. y. z. Γ: x. y. z. Γ. Δ The bones of the second phalanx or order of the fingers: x that of the index, y that of the middle finger, z that of the ring finger, Γ that of the little finger. Δ the lower head incrusted with

a smooth cartilage where it is jointed to the bone of the third or last order: and so of the rest.

Θ. Λ. Ξ. Π: Θ Λ Ξ The bones of the third or last phalanx of the fingers. Θ that of the index, Λ that of the middle finger, Ξ that of the ring finger, Π that of the little finger.

Σ Φ Ψ Ω a b The left os innominatum. Σ Φ Ψ the os ilium, hip or flank bone. Φ its spine. Ψ the protuberance from whence arises the rectus muscle of the leg. Ω a the os ischium or hich bone, a the acute process of the ischium; b the os pubis.

c d e f f The right os innominatum. c the spine or edge of the os ilium, d the tubercle from whence arises the rectus muscle of the leg, e the acute process of the ischium. f f the os pubis.

g h i k l m The left femur or thigh bone. g the head incrusted with a smooth cartilage where it is jointed into the acetabulum. h the neck. i the greater trochanter. l the outer condyle of the lower head. m so far extends the smooth cartilaginous crust that covers part of the condyles, at their juncture with the knee.

n o p p The right femur or thigh bone. o the inner condyle. p p the boundaries of the smooth cartilaginous crust that covers the part of this condyle where it is jointed to the tibia, and patella.

q r. q r The patellæ or knee-pan bones. r that part which is covered with a smooth cartilaginous crust which forms part of the joint at the knee.

s. s The inner femilunar cartilages that are interposed in the joints of the knees.

t The outer femilunar cartilage in the joint of the knee.

u v w x y z. u v w x y z The tibiæ or greater bones of the legs. u the upper head, v that part of the upper head which belonging to the joint of the knee is covered with a smooth cartilaginous crust. w a protuberance in which terminates the ligament that comes from the patella, and ties the same to the tibia. y z the lower head, z the inner angle.

A B C. A B C The fibulæ or small bones of the legs. B the upper head. C the outer angle.

D E F G. D E G The astragali or cockal bones. e that part which helps to form the juncture with the bones of the leg, covered with a smooth cartilaginous crust. F a sinus or groove thro' which passes the tendon of the long flexor muscle of the great toe. G the cartilaginous incrustation that covers this head of the astragalus.

H. H I K The calcanei or heel bones. I the tubercle by which it begins: and into the back and lower part of which is inserted the tendo Achillis with the tendon of the plantaris muscle; it is inclined upward and backward when we bend the leg and foot forwards. K the projecting part that sustains the head of the astragalus.

L L The cubical bones of the tarsus or ancle.

M M The navicular bones of the tarsus.

N The middle cuneiform bone of the tarsus.

O O The less cuneiform bones of the tarsus.

P P The greater cuneiform bones of the tarsus.

Q. R. S. T. V: Q. R. S. T. V. W The bones of the metatarsus or instep: Q that of the great toe, R that of the first of the small toes, S that of the second, T that of the third, V that of the fourth. W the head of the metatarsal bone of the great toe cover'd with a smooth cartilaginous crust at its juncture with the bone of the first phalanx and sesamoide bones. The same is also true of the other bones of the metatarsus.

X The sesamoide bones that are placed at the joint of the great toe with its metatarsal bone.

Y. Z. α: Y. Z. α. β. γ: Δ The bones of the first phalanx or order of the great and small toes: Y that of the great toe, Z that of the first of the small toes, α that of the second, β that of the third, γ that of the little toe. Δ the round head incrustd with a smooth cartilage where it is jointed to the next bone. The same likewise holds in the rest of these bones.

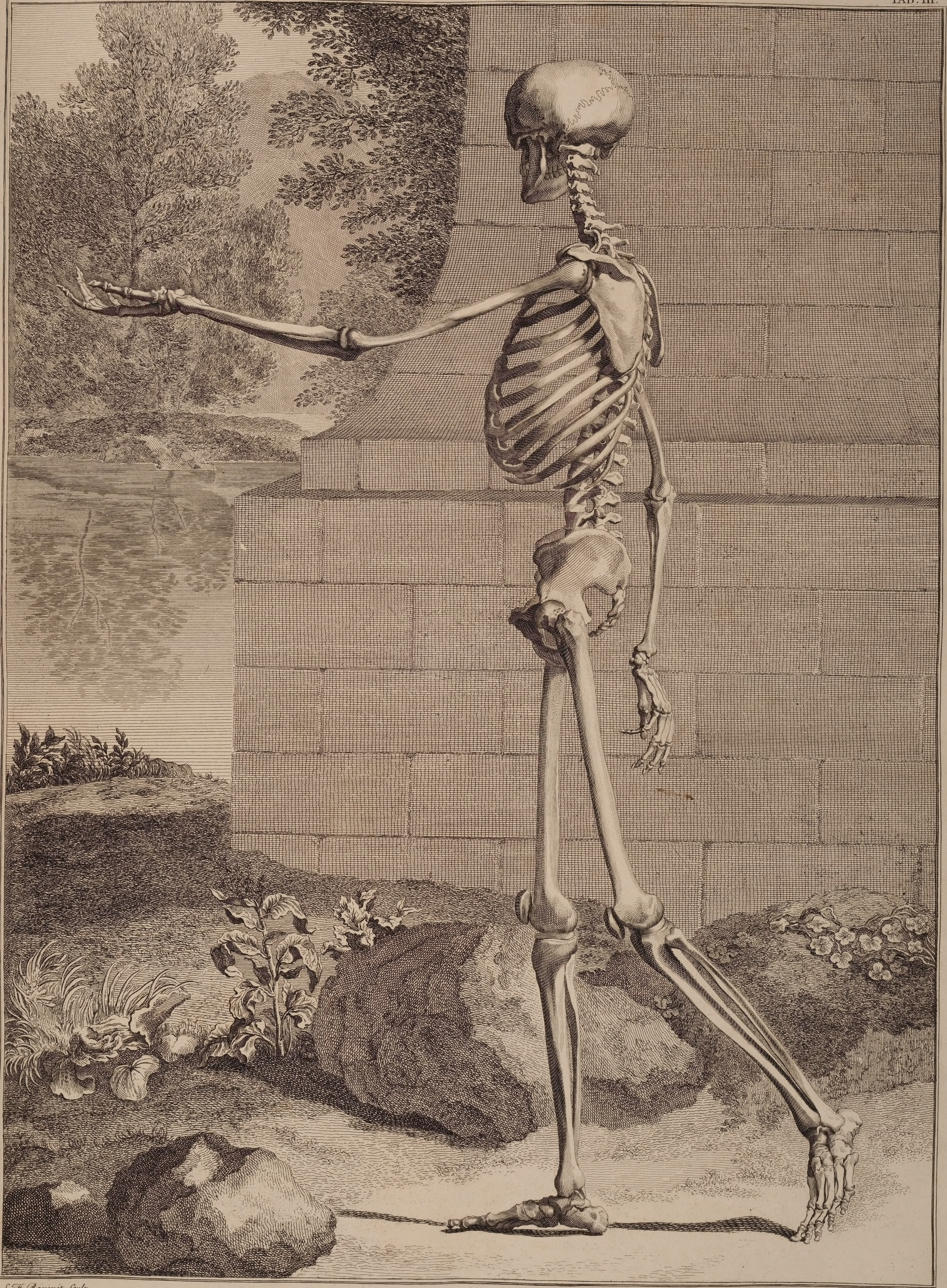
ε: ε. ζ. η. θ The bones of the second phalanx or order of the small toes, ε that of the first toe, ζ that of the second, η of the third, and θ of the little toe.

ι. ι The last bones of the great toes.

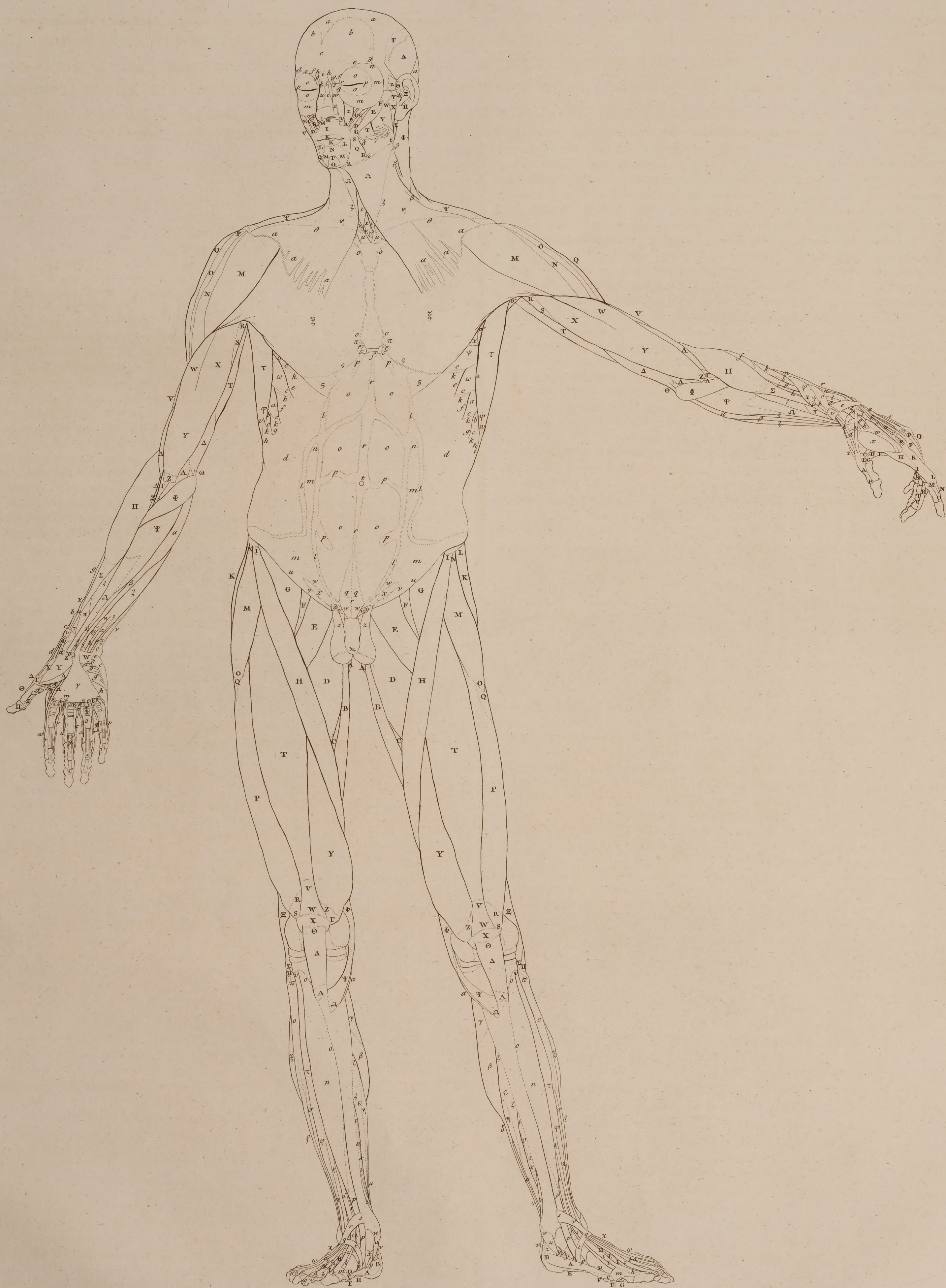
κ κ: κ. λ. μ. ν The bones of the third and last phalanx or order of the small toes, κ that of the first, λ of the second, μ of the third, and ν of the little toe.

F I N I S.





TAB. I.



THE
FIRST ANATOMICAL TABLE
OF THE
HUMAN MUSCLES
EXPLAINED.

IN this Table are exhibited the outermost of the muscles, just as they are situated, behind the common integuments and tendinous fasciæ, throughout the whole anterior part of the body; to which we have added some of the ligaments belonging to those fasciæ, and to the skeleton, or proper to some other parts, as those of the nose, ears and pudends, which are not covered with muscles.

In the head, neck and trunk.

a a a b b c d e f g h d. e f g h i k l The Epicranius or muscle of the scalp. a a a the tendinous expansion betwixt the occipital and frontal muscles. b b &c. The frontal muscles. b b the round margins from whence they arise. c the conjunction of the frontal muscles along the middle of the forehead. d-e. d-e the termination of the frontal muscles at the orbicular muscles of the eye-lids. e-f. e-f their inflection along the eye-lids to the greater or inner corners of the eyes, according to the course of the orbiculares palpebrarum. g. g the points that inflect themselves into the greater angles. h. h portions that go to the elevators of the upper lip and wings of the nose. i the part that runs betwixt the eyebrows, and upon the nose. k l the conjunction of the frontal muscles with the compressores narium; with which, at k they are interwove, and at l they are continued with them.

m m n o o p q r. m' o o p The orbicular muscles of the eye-lids. m m that part which is expanded round the margin of the orbit of the eye. n the part that comes from the corrugator of the eye-brow. o o the part that is spread over the eye-lid. p an intertexture or implication of the fibres which coming from the eye-lids meet together near the lesser canthus or angle. q r the origin of the fibres from the ligament, by which the conjunction of the eye-lids in the greater canthus is tied to the nose.

s The ligament by which the tarfi, or cartilaginous edges of the eye-lids meeting in the greater canthus, are tied to the nose, and partly to that origin of it that springs from the upper jaw-bone.

t u The compressor of the nostril. t the fleshy part. u its tendinous expansion, by which the right and left of those muscles are conjoined, along the back of the nose. w x y. y The elevators of the upper lip and of the nostril. x that part which goes along the side of the nose to the wing of the nostril. y that end which is expanded thro' the upper lip and there disappears.

z A. z The elevators of the upper lip. A the extremity which being extenuated runs thro' the upper lip, and therein disappears.

B. B Portions which come to the upper lip, from the orbicular muscles of the eye-lids.

C. C The less zygomatics, which being extenuated thro' the upper lip, disappear.

D D. D The elevators of the corners of the mouth. D D continues itself partly to the depressor of the angle of the mouth, and partly bends itself round the said angle to the lower lip, and there it forms the outer part of the orbicular muscle of the mouth.

E F G. E The greater zygomatics. F the origin from the os jugale. G the lower extremity continued to the depressor of the angle of the mouth.

H. H The nasal muscles of the upper lip. Here may be seen its origin from the nose, and the manner in which it is inserted into the orbicular muscle of the mouth.

I Part of the orbicular muscle of the mouth in the upper lip, where it goes round the angle of the mouth it receives a portion from the elevator of the angle (D D) which passes round with it.

K K Part of the orbicular muscle of the mouth which is in the red margin of the lips.

L L Thin fasciculi or expansions, that come partly from the greater zygomatics, extended hither; and partly from the depressors of the corners of the mouth, they cross the fasciculi of the subjacent depressors of the lower lip.

M. M N The depressors of the lower lip, which decussate or traverse each other at N.

O P The elevators of the chin. P fibres that intermix with the fat of the chin.

Q R R S. Q The depressors of the corners of the mouth. R R its origin from the lower jaw. S its continuation to the greater zygomatic.

T The buccinator, or trumpet-muscle.

V W X Y. V The masseters. V the anterior and outer part. W the origin of part of it from the os jugale. X the posterior part which is naked before. Y the origin of this posterior part from the os jugale, and from the jugal process of the temporal bone.

Z The anterior muscle of the outer ear.

Γ Δ The elevator of the outer ear. Γ its tendinous beginning by which it goes off from the epicranium. Δ the fleshy part.

Θ The greater muscle of the helix.

Λ The muscle of the tragus.

Ξ The less muscle of the helix.

Π The antitragicus muscle.

Σ The digastric muscle of the lower jaw.

Φ The sternomastoide and cleinomastoide muscles conjoined together into one.

Ψ Ψ Part of the cucullares muscles.

Ω α α α β β γ γ δ ε ζ η θ. Ω α α α ζ η θ The quadratus genæ or broad muscle of the neck. α α α its origin consisting of thin and scattered fasciculi. β β β fasciculi or fibres that in some people are detached to the side of the neck. γ γ scattered fibres which disappear in the cheek terminate this muscle. δ a fasciculus that is extended towards the angle of the mouth, over the forepart of the depressor of that angle. ε ε the lower jaw projecting under this thin and broad muscle of the neck (ζ. η. θ) in like manner the sternomastoideus ζ, and cleinomastoideus η, with the clavicle θ appear protuberant under this muscle.

ι. ι The sternohyoidei muscles.

κ. κ The aspera arteria or wind-pipe.

λ μ. μ The sternomastoidei. μ the tendinous beginning arising from the sternum.

ν. ν The sternothyroide muscles.

ξ ο ο π ς ς ς. ξ ο ο π ς ς ς The pectoral muscles. ο ο its origin from the sternum. π from the cartilage of the sixth rib. ς from the seventh, by a beginning that is for some way thin and tendinous. ς a cohesion with the aponeurosis of the oblique external muscle of the abdomen. ς a part of this muscle coming from the aponeurosis of the external oblique muscle; which part is in this subject thin and tendinous, in others it is thicker and fleshy, varying its condition in various bodies.

σ σ The teres major.

τ υ φ. τ υ φ The latissimi dorsi. υ. φ two heads arising, the former from the tenth, and the latter from the ninth rib.

χ ψ ω α β c c c c. ψ ω α β c c c c The serrati magni, vel antiqui inferiores. χ the head arising from the fifth rib, ψ that from the sixth rib, ω from the seventh, α from the eighth, β from the ninth. c c c c the origin of the heads themselves from the ribs.

d e f g h i k k k k l l l m m n o o o p p p p q r r r r s t u v v w w x. d e f g h k k k k l l l m m n o o o p p p p q r r r r s t u v v w w x, The external oblique muscles of the abdomen. d the fleshy part. e the head arising from the sixth rib, f from the seventh, g from the eighth, h from the ninth, i from the tenth. k the origin of the heads themselves from the ribs. l l l m m n o o o p p p p q r r r r s t u v v w w x its aponeurosis or tendinous expansion, under which, at m m, is protuberant the flesh of the internal oblique muscle, and under the aponeuroses of both these, at n protuberates the flesh of the transverse muscle. Here the recti o o o, and their innervations p p p p appear thro' the said aponeuroses, and under the same at q, protuberates the pyramidal muscle. r r r r the linea alba, into which the aponeuroses of the oblique external muscles are continued, and cross each other, and are conjoined to the subjacent ones. f an aponeurosis inserted into the breast bone, the part s may be said to belong either to the aponeurosis of the oblique external, or to the pectoral muscle; and so either to arise from the cartilage of the seventh rib, or to be inserted into it. t an opening in the linea alba thro' which in the foetus pass out the umbilical arteries, the umbilical vein, and urachus. u the bottom of the tendinous margin that is extended from the spine of the ilium to the pubes. v v. w w the two parts into which the aponeurosis splits itself, and continues distinct from thence to the pubes under the appearance of a tendon, wherein is an aperture thro' which passes out the chord of the spermatic vessels with the cremaster muscle. x a thin expansion continued from one tendon to the other, and connecting them together. Under this expansion the spermatic chord passes along a little protuberant and conspicuous thro' it; till at length the said chord comes out from beneath the expansion thro' an oblique ring or aperture near the pubes; which ring is small and formed betwixt the expansion x, the tendons v v. w w and the os pubis. Lastly, the fibres of the aponeurosis that are expanded under the appearance of flesh or muscle decussate other small and thin tendinous fibres; as sufficiently appears from the figure, and from both those kinds of fibres is formed the expansion x, that runs from one tendon thro' the other.

y. y The naked chords of the spermatic vessels.

z. z The cremaster muscles.

A. A The glutei maximi.

B. B The graciles.

C. C The great adductors of the triceps of each thigh.

D. D The long adductors of the triceps of each thigh.

E. E The pectinei muscles.

F. F The great psoas or lumbal muscle of the thigh coming out of the abdomen.

G. G The internal iliac muscles.

H I. H I The Sartorius or Taylor's muscle. I its origin which is outwardly tendinous from the spine of the ilium.

K L. K The glutei medii. L its origin from the spine of the ilium.

M N O. M N O The fasciales or extensors of the aponeurotic fasciæ of the thighs. N its origin from the spine of the ilium. O its extremity from, when the tendinous part is cut off that joins the fascia or vagina of the thigh.

P Q R S. P Q R S The vasti externi. Q the tendinous part. R the lower tendon, inserted into the patella at S.

T V W X. T V W X The recti or straight muscles of the thighs. V the tendon inserted into the patella or knee-pan bone. W the place where the tendon inserts itself into the patella. X an aponeurosis that runs over the patella from the rectus, and afterwards joins itself to the fore part of the ligament that ties the patella to the tibia.

Y Z Γ. Y Z Γ The vasti interni. Z the tendon of its end, inserted into the patella at Γ.

Δ Θ Λ. Δ Θ Λ The ligament that ties the patella to the tibia. Θ the part where it arises from the patella. Λ the whole space by which it is inserted into the tibia below.

Ξ Π Σ. Ξ Π Σ Part of the biceps muscle of each leg. Π Σ its tendinous end, of which the principal part Π is inserted into the head of the fibula; Σ the part which belongs to the tibia.

Φ Ψ Ω. Φ Ψ Ω The sartorius (H). Ψ the tendon which is inserted into the tibia at Ω.

α. α Lower end of the semitendinosus, or semimembranosus.

β γ δ. β γ The gemelli or gastrocnemii. β aponeurosis. δ the tendon.

ε ζ η. ε ζ η The solei. ζ ζ the origin from the tibia. η the tendinous surface.

θ ι κ. θ ι κ The long flexors of the toes. ι ι the origin from the tibia. κ the beginning of the tendon.

λ. λ The tendons of the tibiales postici.

μ. μ The tendons of the plantares musculi.

ν ν. ν The great tendons of the heel, call'd Achillis.

ξ. ξ The solei muscles.

ο π ς. ο π ς The peroneus longus. π its origin from the head of the fibula. ς the tendon arising from the outer part of its fleshy body.

σ. σ The peroneus brevis.

τ υ. τ υ The long extensors of the toes conjoined into one with the peronei tertii. υ the origin from the tibia.

φ χ λ. φ χ λ The peronei tertii. χ χ the tendon on the leg and foot.

ψ ω α β c. ψ ω α β c The long extensors of the toes. ψ the tendon which is divided into four other tendons ω α β c running over the back of the foot and on the small toes.

In the lower extremities.

FIRST ANATOMICAL TABLE.

d e f g h These letters are engraved only upon the first of the small toes of the right foot (there not being room enough for them on the other small toes of each foot); but from this one, the corresponding parts of the rest may easily be understood. d the common tendon of the long and short extensor of the toes, inserted into the bone of the second phalanx. e the tendon running to the bone of the third or last order, which tendon comes from the short extensor of the toes; but there is no such tendon goes to the little toe. f part of the common tendon of the long and short extensor, running to the third or last bone. g the common end of the two tendinous portions belonging to the third bone, into which they are inserted. h the aponeurosis that joins the tendon d, coming partly from the capsule of the joint of the toe with its metatarsal bone, partly from the tendon of the interosseus and lumbrical muscle of this side, and in part from the side of the bone of the first phalanx.

i i k. i i k The tendons of the extensors proper to the great toes. k the end inserted into the last bone of the great toe.

l l l. l l l Branches of the tendons of the extensors proper to the great toes, which are sometimes found.

m. m Aponeuroses which the tendons proper to the great toes receive from the capsules of the joints of the said toes with their metatarsal bones.

no o p p p. no o p p p The tibiales antici. o o the origin from the tibia. p p p the tendon.

q r s t. q r s t The ligaments that cover and confine the tendons at the bottom of the leg, and on the back of the foot. r the upper horn affixed to the tibia at s. t the lower horn.

u w. u w The ligaments that retain the tendons near the inner ancles. w its origin from the said ancle.

x x The ligaments that retain the tendons of the tibiales postici.

y y. y The tendons of the tibiales postici inserted partly into the navicular bones, and running partly to the greater cuneiform bones.

z. z The muscular heads which arise from the calcanei or heel-bones and go to the long flexors of the toes in the soles of the feet.

A B C. A B C The abductors of the great toes. B the origin from the side of the heel bone. C the tendon.

D D The short flexor muscles of the great toes.

E E The short flexor muscles of the other toes.

F F. F The tendons of the long flexors of the great toes.

G The tendon of the long flexor of the great toe in the left foot, where it passes under the first phalanx, confined in a tendinous sheath that splits into two horns.

H I K. H I K The short extensors of the toes. H a part belonging to the great toes. I a portion running to that side of the first of the left toes which is next the great toe; sometimes found. K a portion belonging to the first of the left toes.

L L The first of the interossei muscles, belonging to the first of the small toes.

M N O P Q. M N O P Q The deltoide muscles. M the first portion of the anterior order of fasciculi that compose this muscle. N the first of the lateral order. O P the third portion of the first or anterior order. P its origin from the acromion or upper process of the scapula. Q the middle portion of the second order.

R S The coracobrachiales, at the part R they are conjoined with the lower head of the biceps muscle of the arm.

T. T The long portions of the triceps muscles of the arms.

V. V The short portions of the triceps muscles of the arms.

W X Y Z. W X Y Z The biceps muscles of the arms. W the longer head. X the shorter head. Y the common belly. Z the aponeurosis that gives the tendinous fascia to the fore arm, here cut off. I the tendon by which it is inserted into the radius.

Δ Θ. Δ Θ Portions of the triceps muscles of the arms, which are commonly call'd the brachii externi. Θ a tendon which arising from the surface the said brachii-us goes to the posterior condyle of the humerus.

Λ Α Λ. Λ Α Λ The brachii interni muscles.

Ξ The short supinator muscle of the radius.

Π Σ. Π Σ The long supinators. Σ the tendon.

Φ Φ The round pronators of the radius.

Ψ Ω. Ψ Ω The radiales interni. Ω the tendon.

α β γ δ ε ζ η θ ι κ λ μ ν ξ ο π ρ σ τ υ φ ψ ω x y z. α β The palmares longi. β the tendon. γ δ ε ζ η θ ι κ λ μ ν ξ ο π ρ σ τ υ φ ψ ω x y z its aponeurosis or tendinous expansion, first slightly distinguished into four portions, which become afterwards more distinct and strengthened by transverse tendinous fibres. δ the portion which it sends off to the short abductor of the thumb. ε ζ η θ the extremities which this aponeurosis sends to the roots of the fingers. ζ η θ ι κ λ μ ν ξ ο the sublimis. η θ a portion that belongs to the middle finger; θ the tendon. ι κ the portion that belongs to the ring finger; κ the tendon. λ μ the portion to the index. μ the portion to the little finger.

ν ξ ο The ulnaris internus. ξ the tendon, inserted into the pisiform bone of the wrist, ο.

π ρ. π The long flexors of the thumbs. ρ the tendon.

σ The tendon of the profundus that goes to the index.

τ The pronator quadratus.

υ υ The ligaments under which pass the tendons of the long abductors and left extensors of the thumbs.

φ ψ ω x y z. φ ψ ω x y z The long abductors of the thumbs. x the upper part. ψ the lower part. ω ω the tendon of the upper part. a the portion which it sends off to the short abductor of the thumb. b b the tendon of its lower part.

c d. c d The left extensors of the thumbs. d the tendon.

e The outer part of the armillary or round ligament.

f g g g g h The longer external radialis muscle. g g g g h the tendon inserted into the metacarpal bone of the index at h.

i The tendon of the left radialis externus longior.

k l l l l The shorter radialis externus, l l l l the tendon.

m n o p q The common extensor of the fingers. n o the portion that belongs to the index, of which o denotes the tendon. p the tendon to the middle finger. q the tendon to the ring finger.

r s The extensor proper to the little finger. s the tendon.

t The aponeurosis by which the tendon of the index o, and that of the middle finger p are conjoined together. By like aponeuroses also are conjoined the tendons of the middle and ring-finger, of the ring and little finger: but these, as well as the conjunctions and divisions of the tendons of the common and proper extensor of the little finger are not marked with letters; because the whole may be better understood from the first of the back views, which makes the fifth muscular table.

u u The tendon of the indicator muscle.

w The first or outermost interosseus muscle of the index.

x The abductor of the index.

y The tendon of the greater extensor of the thumb.

z The opposing muscle of the thumb.

In the upper extremities.

In the left hand.

A B The common tendon of the greater and left extensor of the thumb, inserted into the last bone or phalanx at B.

C The aponeurosis that invests the capsule of the joint of the thumb with its metacarpal bone, adhering to the said capsule and to the tendon of the common extensor of the thumb.

D The posterior tail of the short flexor of the thumb.

E The aponeurosis which the posterior tail of the short flexor of the thumb sends to the tendon of the common extensor of the thumb.

F G The abductor of the thumb. G the tendinous end inserted into the first bone of the thumb.

H The aponeurosis which arising partly from the first lumbrical and abductor muscle of the index, joins itself to the tendon of the common extensor of the index.

I The tendon of the first lumbrical muscle.

K L The common tendon of the indicator and extensor muscles belonging to the index.

M The tendon of the first lumbrical muscle, enlarged by a portion it receives from the common tendon of the extensors of the index, and running to the third or last bone of that finger.

N The tendon of the posterior interosseus muscle of the index, which being increased by a portion received from the common tendon of the extensors of the index, goes on to the third bone or phalanx of the index.

O The common end of the tendons M and N, inserted into the third bone of the index, formed by the tendons of the interossei muscles (M N) conjoined into one.

P P The tendons of the common extensor of the fingers, where they descend over the backs of the fingers, with the aponeurosis they receive.

Q The common tendon of the extensors of the little finger, descending over the back of that finger.

R A tendon common to the outer interosseus muscle of the middle finger and second lumbrical muscle; which tendon being augmented by a portion it receives from the tendon of the common extensor, runs down to the last or third bone.

S A tendon of the sublimis muscle.

T A ligament that invests the tendon of the profundus together with the extremities of the tendon of the sublimis.

V A tendon of the profundus.

The same (S T V) also holds in the other three fingers, in which the parts being very small are not marked with letters.

W W The ligament of the carpus that with the hollow of the wrist forms a canal that holds and confines the tendons which go to the fingers and thumb from the sublimis, profundus, and long flexor of the thumb.

X The opponent muscle of the thumb.

Y Z Γ Δ The short abductor of the thumb. Z its origin from the ligament of the wrist. Γ part of its tendinous end inserted into the first bone of the thumb. Δ tendinous fibres which pass over the back of the thumb and join to the other part of the tendon of the extensors of the thumb, and continues itself to a like aponeurosis of the short flexor of the thumb.

Θ The common tendon of the extensors of the thumb.

Α Part of the short flexor of the thumb, which may be reckon'd another short abductor of the thumb: its tendinous end being inserted into the first bone of the thumb.

Ξ Π The tendon of the long flexor of the thumb in a manner split in two. Π the end that belongs to the last bone of the thumb.

Σ The ligament by which the tendon of the long flexor of the thumb is retained upon the first phalanx; which ligament is oblique and simple at first, but is afterwards divided, or split into two extremities.

Φ The posterior tail of the short flexor of the thumb.

Ψ The abductor of the thumb.

Ω The first lumbrical muscle.

a The anterior or outer interosseus muscle of the index.

b The abductor of the index, its tendinous end being inserted into the first bone of the index.

c d e The abductor of the little finger. d its origin from the ligament of the carpus, and from the round or pisiform bone of the wrist, e.

f The abductor of the metacarpal bone of the little finger.

g g The palmaris brevis, or square muscle of the palm.

h The small flexor of the little finger.

i The fourth lumbrical muscle.

k The third lumbrical muscle.

l The second lumbrical muscle.

m The former interosseus muscle of the middle finger.

n The former interosseus muscle of the ring finger.

o The former interosseus muscle of the little finger.

p The common tendon of the small flexor, and abductor of the little finger.

q The common tendon of the fourth lumbrical, and former interosseus muscle of the little finger.

r The tendon of the posterior interosseus muscle of the ring finger.

s The common tendon of the third lumbrical, and former interosseus muscle of the ring-finger.

t The tendon of the posterior interosseus muscle of the middle finger.

u The common tendon of the second lumbrical, and former interosseus muscle of the middle finger.

v The tendon of the posterior interosseus muscle of the index.

w The tendon of the first lumbrical muscle.

x The tendon of the sublimis: by the side of which, next the thumb, is a tendon of the profundus, on which there is not room for a letter to be marked.

y z A tendon of the profundus, split as it were lengthwise, and inserted into the third bone or phalanx.

2 2 The two horns or tails of a tendon of the sublimis.

3 The ligament that invests the tendons of the sublimis and profundus as they pass along the first bone or phalanx: which ligament is fixed on each side of the margin of the said first bone.

4 4 4 Three small ligaments which retain the tendons of the sublimis and profundus, near the joint of the finger, with its metacarpal bone; they are thick and continued to each other, and to the next ligament, 3, by thin tendinous fibres.

5 The ligament that invests the tendon from the profundus, and the extremities or tails of the sublimis tendon, about the middle of the length of the second bone or phalanx; which ligament is affixed on each side to the margin of the second bone.

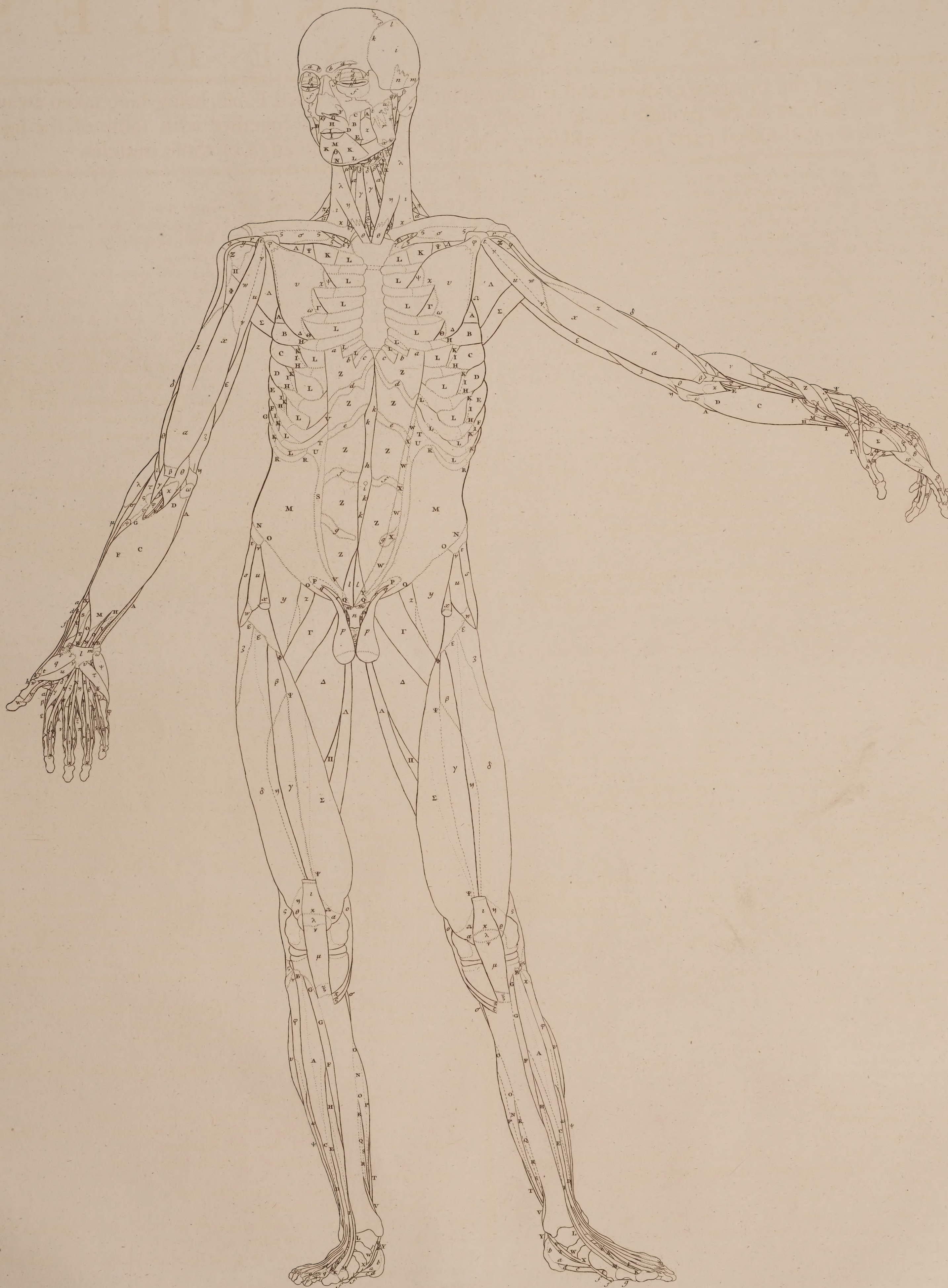
The same parts (x. y z. 2 2. 3. 4 4 4. 5.) are likewise in the rest of the fingers; and are sufficiently apparent, altho' they are not marked with letters.

The parts of the Sceleton which appear betwixt the muscles are not marked with explanatory letters; since they may easily be understood from the first table of the Sceleton, in which the figure is plainly the same, and makes the basis or back-foundation of this; to the bones of which Sceleton the muscles are inscribed to form this and the other muscular tables.

In the right hand.



TAB. II.



THE SECOND ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

MOST of the primary or outermost muscles, contained in the first Table, being here taken away; we exhibit in the present figure the next order of muscles, together with some of the ligaments and naked parts of the Skeleton, which make the foundation of those muscles.

The parts taken off from this figure are from the *head*, the epicranii, the elevator and anterior muscle of the outer ear, with the ear itself.—from the *face*, the orbiculars of the eye-lids, the compressors of the nostrils, the elevators of the upper lip and sides of the nose, the elevators proper to the upper lip, the portion detached from the orbiculars of the eye-lids to the upper lip, the greater and less zygomatics and the depressors of the corners of the mouth.—From the *neck*, the latissimus or quadratus, and the cucullares.—From the *trunk*, are taken the pectorales, latissimi orsi muscles, and oblique external ones of the abdomen with the penis.—From the *hips*, the extensors of their tendinous coverings, with the Taylors and straight muscles of the thighs and legs.—From the *legs* and *feet* are taken, the gastrocnemii, the tibiales antici, the ligaments that confine the tendons at the bottom of the leg and upon the back of the foot, the ligaments that retain the tendons near the inner ancles, the ligaments that retain the tendons of the tibiales postici, the abductors of the great-toes, the aponeuroses which the tendons of the extensors proper to the great toes receive from the capsules of the joints of those toes with their metatarsal bones.—From the *arms* are taken the deltoide muscles. From the *fore-arms* and *hands* the long supinators, the round pronators, the internal radials, the palmares longi, the ligaments under which pass the tendons of the long abductors and less extensors of the thumbs. Also from the right hand are taken the short abductor of the thumb, the ligaments which retain the tendon of the long flexor of the thumb, the palmaris brevis, the ligaments confining the tendons of the sublimis and profundus where they pass along the fingers. Also from the left fore-arm and hand are taken, the common extensor of the fingers, the extensor proper to the little finger, the outer part of the round or carpal ligament, and the ligaments which confine the tendons of the sublimis and profundus in the fingers.

a. a b The corrugators of the eye-brows. b their origin from the os frontis.
d e. c d e The elevators of the upper eye-lids. c the fleshy part. d-e the part that is like a thin tendinous expansion, spread over the tarsus, which makes it project out in the part e.
f. f &c. The membranous part of the eye-lids.
The ligament that ties the meeting of the eye-lids, in the greater canthus, to the nasal process of the upper jaw-bone. The same is also in the other side of the face.
h. h h Some continuations of the orbicular muscles of the eye-lids, arising from the extremity of the aforesaid ligament, and spread round the margin of the eye-lids in one continued course.
k l m n The temporal muscles. k l m the first beginning of its origin, from the os frontis at k, from the parietal bone at l, and from the temporal bone m. n its tendon.
p q r s t u v w x. r The masseters. o the back part, where it is not covered, arising from the zygomatic process of the temporal bone p, and from the os jugale q. r the anterior and outer part. s its tendinous beginning. t u its origin from the upper jaw-bone t, from the os jugale u. w w its tendinous ending, the extremity of which x is inserted into the lower jaw.
The digastric muscle of the lower jaw.
The buccinator muscle.
A The external pterygoide muscle.
C D E. B The elevators of the corners of the mouth. C its origin from the upper jaw. D the part where it joins to the nasal portion of the upper lip, and by which it joins the sphincter of the mouth. E the part by which it is continued to the depressor of the corner of the mouth, which is cut off near this part.
The depressor of the wing of the nostril into which it is inserted: part of the right is also visible.
G. G The nasals of the upper lip: in which may be seen the manner of their arising from the nose, and joining to the sphincter of the mouth.
H I I The sphincter of the mouth. H that part which is in the upper lip. I I the part in the red margin of the lips.
K L. K M The depressors of the lower lip. L the origin from the jaw. M the part where the right and left cross each other.
N O The elevators of the chin. O fibres which mix with the fat of the chin.
P The digastric muscle of the lower jaw.
Q The mylohyoidei, inserted into the os hyoides.
R The stylohyoideus muscle.
S The basiloglossus muscle.
T The ceratoglossus muscle.
V A ligament extended from the end of the horn of the os hyoides to the upper process of the thyroide cartilage, which it ties to the said horn.
W The stylopharyngeus muscle.
X The lower constrictor of the pharynx.
Betwixt W and X is the upper process of the thyroide cartilage.
Y Z. Y The hyothyroidei. Z the origin from the os hyoides.
 $\alpha\alpha\beta$. $\alpha\alpha\beta$ The coracohyoidei. β the end inserted into the basis of the os hyoides.
 $\gamma\gamma\delta$. $\gamma\gamma\delta$ The sternohyoidei. δ the end inserted into the basis of the os hyoides.
 $\varepsilon\varepsilon\varepsilon$. $\varepsilon\varepsilon\varepsilon$ The sternothyroidei muscles.
 ζ The wind-pipe or trachia.
 $\theta\theta\iota\kappa\lambda\mu$. $\theta\theta\iota\kappa\lambda\mu$ The sternal and clavicular portions of the mastoide muscle conjoined. θ the sternal part or sternomastoideus. θ its origin from the sternum by a tendon, and afterwards tendinous. $\iota\kappa$ the clavicular portion or cleidomastoideus. λ its origin from the clavicle. μ the conjunction of them both together into one. μ the inner side of them. ν the end which is inserted tendinous into the mastoide process.
 ξ The greater internal straight muscle of the head.
 $\omicron\omicron$. $\omicron\omicron$ The middle scaleni.

$\pi\pi$ The elevators of the shoulder blades.
 $\rho\rho$ The anterior scaleni where they arise from the first ribs.
 $\sigma\sigma\sigma\sigma$. $\sigma\sigma\sigma\sigma$ The subclavian muscles. ς their tendinous origin from the cartilaginous end of the first rib, the aponeurosis running along the lower side of the muscle. $\varsigma\varsigma$ the end which is inserted into the clavicle.
 $\upsilon\phi\chi\psi\omega\Gamma\Delta\Theta$. $\upsilon\phi\chi\psi\omega\Gamma\Delta\Theta$ The anterior and upper serrati muscles. ϕ the tendinous end that is inserted into the coracoid process of the scapula; the aponeurosis of which tendon begins to appear first in the margin of the muscle towards the axilla. $\chi\psi\omega\Gamma\Delta\Theta$ the three heads. χ the fleshy part of the first head. ψ the thin tendinous part arising from the upper side of the bony and cartilaginous end of the third rib. ω the fleshy part of the second head arising in an oblique course from the whole breadth of the fourth rib while its thin tendinous part Γ , arises from the bony and cartilaginous end of the same rib. $\Delta\Theta$ the third head; Θ the thin tendinous part arising from the upper side of the bony end of the fifth rib.
 $\Lambda\Lambda\Xi\Pi$. $\Lambda\Lambda\Xi$ The subcapular muscles. Ξ the tendinous part of its end, inserted into the less protuberance of the upper head of the humerus; Π the fleshy part, inserted into the humerus itself below the said protuberance.
 Σ . Σ The teres major on each side.
 Φ The tendinous end of the latissimus dorsi joined with the teres major and inserted into the os humeri.
 $\Psi\Omega\text{A B C D E F G}$. $\Psi\text{A B C D E F G}$ The great anterior and lower serratus muscle. Ψ the part that arises from the second rib. Ω the head arising from the third rib. A the head from the fourth, B from the fifth. C from the sixth. D from the seventh. E from the eighth. F from the ninth. G from the tenth rib.
H H, &c. The origin of its heads from the ribs.
I I, &c. The conjunction of its heads with the outer intercostals.
K K, &c. The outer intercostal muscles.
L L, &c. The internal intercostal muscles.
M N O O P Q R R S T U V V. M N O O P Q R R S T U V W W W X X X Y
The internal oblique muscles of the abdomen. M N O O P Q R R the fleshy part. N its origin from the spine of the ilium. O O the edge of it coming from the tendinous margin of the external oblique muscle of the abdomen. P the part under which runs the chord of the spermatic vessels, a little protuberating and conspicuous thro' it. Q the part under which the pyramidal muscle appears protuberant. R R the fleshy part inserted into the tenth rib. S T the aponeurosis which is simple in this part. T the aponeurosis inserted into the cartilage of the ninth rib. U the fleshy part of the transverse muscle protuberant under this aponeurosis. V V the anterior of the two plates cut off into which this aponeurosis S, splits itself, near the rectus. W W W W X X X Y the anterior of the two plates into which the left aponeurosis S divides near the rectus: this lamella is cut off according to the length of the abdomen, just by where it first joins to the aponeurosis of the external oblique muscle. W W W W X X X the rectus here appears protuberant under the aponeurosis, divided into fleshy portions W W W W, by tendinous lines X X X. The pyramidal muscle appears also protuberant under a part of this aponeurosis at Y.
Z Z Z Z Z a b c d e f g. Z Z Z Z a b c d e f g The straight muscles of the abdomen. a. b. c their ends, inserted into the fifth rib at a, the sixth at b, and the seventh at c. d. e. f. g the tendinous lines. h i the white line. i an opening in that line thro' which pass out, in the fœtus, the umbilical arteries and vein with the urachus.
k k. k k The aponeuroses of the external oblique muscles here cut off, together with the anterior of those lamellæ into which the tendons of the internal oblique muscles divide themselves.
l m. l m The pyramidal muscles. m their beginning from the ligaments by which the ossa pubis are tied together before, at their synchondrosis.
n The synchondrosis of the ossa pubis, tied by its ligaments.
o The penis cut off.
p q. p q The cremasters. q their beginning which goes off from the flesh of the internal oblique muscle.
r. r The chords of the spermatic vessels.
s t. s t The middle gluteus. t its origin from the spine of the ilium.
u v w. u v w The least of the glutei. v the origin from the spine of the ilium. w the tendon inserted at the root of the greater trochanter.
x x The beginning of the straight muscles of the thighs cut off.
y y The internal iliacs.
z z The great psoæ, or lumbal muscles of the thighs.
 $\Gamma\Gamma$ The pectinei muscles of the thighs.
 $\Delta\Theta$. $\Delta\Theta$ The long adductors of the thighs. Θ its origin from the ligaments that tie the synchondrosis of the ossa pubis.
 $\Lambda\Xi$. $\Lambda\Xi$ The gracilis. Ξ its origin from the ligaments that tie the synchondrosis of the ossa pubis.
 $\Pi\Pi$ The great adductors of the thighs.
 $\Sigma\Phi\psi\Omega\alpha$. $\Sigma\Phi\psi\Omega\alpha$ The internal vasti. Φ the origin from the femur. ψ the part where it joins to the tendon of the cruralis. Ω the tendon, which is inserted into the patella at α . In this muscle, near the crureus, is an impression from the rectus.
 $\beta\gamma$. $\beta\gamma$ The crurei muscles. γ the tendon.
 $\delta\varepsilon\zeta\eta\theta$. $\delta\varepsilon\zeta\eta\theta$ The external vasti. $\varepsilon\varepsilon$ the origin from the thigh bone. ζ part of the tendinous beginning. $\eta\eta$ the tendon, inserted into the patella θ . Near the crureus is a considerable impression made in this muscle by the rectus.
see Tab. I.

In the lower extremities.

SECOND MUSCULAR TABLE.

* x λ. * x λ The tendons of the straight muscles of the thighs cut off. * the place where it is inserted into the patella. λ the aponeurosis which runs from the tendon of the rectus over the fore part of the patella to the ligament that ties the patella to the tibia; afterwards joining itself to the fore part of the said ligament.
 μ ν ξ. μ ν ξ The ligament that belongs to the tibia from the patella. ν the place where it arises from the patella. ξ in this part it is fix'd to the tibia beneath.
 θ π. θ π The tendons of the graciles, inserted into the tibia at π.
 ς ς The tendons of the semitendinosi inserted into the tibiae.
 σ σ The poplitei muscles.
 ς σ τ. ς σ τ The biceps in each thigh. σ τ its tendinous extremity, ς its principal part inserted into the head of the fibula; τ the part that belongs to the tibia.
 υ υ The solei muscles.
 φ χ ψ. φ χ ψ The long peronei muscles. χ the origin from the head of the fibula. ψ the tendon arising from the outer part of the muscular flesh.
 ω ω The short peronei muscles.
 A B C D E. A B C D E The long extensor of the toes of each foot, with the third peronei muscles. A the muscular flesh common to the extensor and peroneus; B its origin from the tibia. C the third peroneus, D its tendon. E the tendon of the long extensor of the toes, which divides into four tendons, belonging to the four small toes, of which that belonging to the little toe arises sooner and upon the leg itself, but the rest arise where they are about to pass the ligament q. in Tab. I. Where the long extensor and peroneus are joined there is a considerable imprefion from the tibialis anticus. see Tab. I.
 F G G. F G G The tibiales postici. F the part that comes from the fibula. G G the part arising from the tibia.
 H I K L M. H I K L M The proper extensors of the great toes. I the tendon, inserted into the last bone of the said toe. L M a branch of the tendon which I have sometimes found, inserted into the first bone of that toe.
 N O O P. N O O P The solei. O O the origin from the tibia. P the tendinous surface, where the tendon arises.
 Q R R S. Q R R S The long flexors of the toes. R R the origin from the tibia. S the beginning of the tendon.
 T T The tendon of the plantaris in each leg.
 V V W X. V V W X The tendons of the tibiales postici. W the end that is inserted into the navicular bone, and runs in part to the greater cuneiform bone.
 Y Y The great tendons, call'd Achillis.
 Z Z The tendons of the long flexors of the toes.
 a b. a b Muscular heads which go to the long flexors of the toes in the sole of the foot. b the origin from the calcaneum.
 c d. c d The short flexors of the toes, arising from the calcaneum at d.
 e The outer tail of the short flexor of the great toe.
 f f g. f f The tendons of the long flexors of the great toes. at g it is confined in a ligamentary sheath, that is split into two horns.
 h. h The first interossei belonging to the first of the small toes.
 i k l. i k The short extensors of the toes. i the part that belongs to the great toe. k a portion running to that side of the first toe that is next the great toe, sometimes found. l the portion belonging to the first of the small toes.
 m n o p q. m The common tendon of the long and short extensor of the toes, that is inserted into the bone of the second order. n a portion of the common tendon of the long and short extensor running to the third bone. o a tendon from the short extensors of the toes, to the third bone. p the common end of the two portions belonging to the third bone into which it is inserted. q an aponeurosis joining the tendon m, in part from the capsule of the joint of the toe with its metatarsal bone, and in part from the lumbrical muscle and side of the bone of the first order. The same is to be understood of the rest of the toes in each foot: except, that there is no portion from the short extensor of the toes, detached to the tendon of the little toe.
 r s. r s The suprapinati. s the tendon inserted into the great and rough tubercle of the humerus.
 t. t The common origin of the coracobrachialis and shorter heads of the biceps muscles of the arms, from the coracoid processes of the shoulder blades.
 u u The coracobrachiales, in the part v v. v v conjoined with the shorter heads of the biceps muscle of each arm.
 w x y z α β γ. w x y z α β γ The bicipital muscles of the arms. w x the shorter head. w the part that is outwardly tendinous, x the fleshy part. y z the longer head; y the tendon by which it arises running over the head of the humerus, and then thro' the sinus that is betwixt its two protuberances. z the fleshy part. α the common belly. β the aponeurosis, which it gives to the tendinous vagina of the fore-arm, here cut off. γ the tendon by which it is inserted into the radius.
 δ ε ζ η. δ ε ζ η The triceps extensor of each arm. δ the short head, ε the long head. ζ the brachialis externus. η the tendon which arising from the surface of the brachialis externus, belongs to the posterior condyle of the humerus.
 θ θ ι κ. θ θ ι κ The internal brachii muscles. ι the lower part that lies near the supinator longus. κ the tendinous surface.
 λ μ The longer external radialis muscle of the right arm. μ the tendon.
 ν ξ ο π ς. ν ξ ο π ς The longer external radialis muscle of the left arm, here dividing itself into two, each of which form a tendon. ξ the principal tendon of the chief part. ο the tendon of the less part which joins itself to the other tendon. π the common tendon, inserted into the metacarpal bone of the index.
 σ ς σ ς ς ς The shorter radiales externi. ς the tendon inserted into the metacarpal bone of the index and middle finger.
 τ τ υ φ. τ φ The short supinators. τ υ the end inserted into the root of the tubercle of the radius, and into the radius itself below that tubercle. φ the posterior part.
 χ χ χ The profundus muscles, bending the fingers.
 ψ The round pronator of the radius cut off.
 ω ω The common origins of the ulnares interni and sublimis; arising tendinous from the greater condyles of the humeri.
 A. A A B The ulnares interni. B the tendon inserted into the pisiform bone.
 C D E F G H I K L M N N O O P Q Q. C D E F H I M N The Sublimis. D the thicker part arising from the greater condyle of the humerus. E the portion arising by a small tendon from the ulna, near the end of the internal brachialis. F G the thinner part arising from the radius, G its origin from the radius. H I I a portion belonging to the ring-finger, I I its tendon. K L the portion belonging to the little finger, L its tendon. M N N the portion belonging to the middle finger, N N its tendon. O O P Q Q the portion belonging to the index, P its tendon; Q Q the two horns into which the tendon splits, inserted into the bone of the

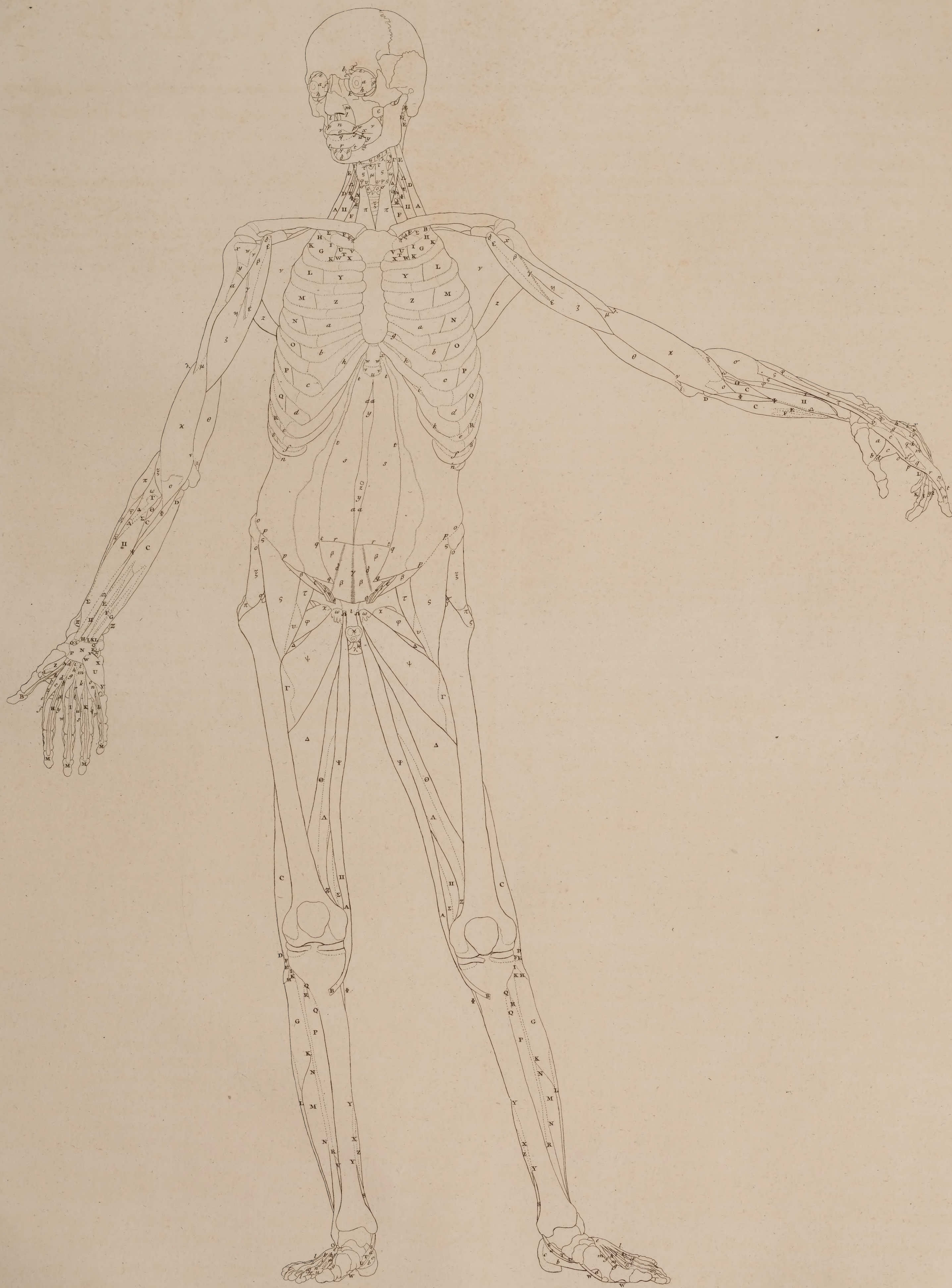
second phalanx of the index. In like manner are divided into horns and inserted the tendons I. L. N.
 R The tendon of the profundus belonging to the index.
 S T. S T V W The long flexors of the thumbs. T V the tendon in the part V as if it were split length-wise, and inserted into the last bone of the thumb.
 X X The tendons of the long supinators cut off.
 Y The pronator quadratus.
 Z b d. a b c d The long abductors of the thumbs. a the upper part. b the tendon of the upper part, a portion of which c, that it gives to the short abductor of the thumb, is here cut off. d the tendon of the lower part.
 e f. f The less extensors of the thumbs. f the tendon.
 g. g The greater extensor of the thumb.
 h. h i The common tendons of the greater and less extensors of the thumbs. i the infertion of the common tendon into the last bone of the thumb.
 k The end of the short abductor of the thumb cut off.
 l m n o p The ligament of the wrist, which with the carpal sinus forms a channel confining the tendons in their passage from the fore-arm to the fingers and thumb, viz. of the sublimis, profundus, and long flexor of the thumb, m the origin of the ligament from the pisiform bone of the wrist, the multangular bone n, and from the navicular bone o. p the canal thro' which passes the tendon of the internal radialis muscle.
 q r s t The opposing muscle of the thumb. r its origin from the larger multangular bone, and ligament of the carpus s. t its end inserted into the metacarpal bone of the thumb.
 u v w Part of the short flexor of the thumb, which may be reckoned a second short abductor of the thumb. v its origin from the ligament of the carpus. w its tendinous end inserted into the first bone of the thumb.
 x The posterior tail of the short flexor of the thumb.
 y The abductor of the thumb.
 z The outermost interosseous muscle of the index.
 α β The abductor of the index. β the tendinous end inserted into the first bone of the index.
 γ δ ε The first lumbricalis. δ its origin from the tendon of the profundus belonging to the index. ε the tendon that joins itself with the common tendon of the extensors of the index, and then goes to the third bone of the index.
 ζ η θ The lumbrical muscles, ζ the second, η the third, θ the fourth. They end in tendons like the first, which are not marked here on account of their minuteness. These tendons join with the tendons of the outer interossei.
 ι κ λ μ ν ξ ο π ς τ υ φ χ ψ ω The tendons of the profundus, slit in a manner lengthwise, and inserted into the bones of the third order, x x x x.
 λ The posterior or inner interosseous muscle of the index with its tendon.
 μ The outer interosseous muscle of the middle finger.
 ν The common tendon of the second lumbricalis and outer interosseous muscle of the middle finger.
 ξ The posterior or inner interosseous muscle of the middle finger with its tendon.
 ο The outer interosseous muscle of the ring finger.
 π The common tendon of the third lumbrical and outer interosseous muscle of the ring finger.
 ς The tendon of the inner interosseous muscle of the ring finger.
 σ The tendon of the outer interosseous muscle of the little finger.
 τ υ The small flexor of the little finger. υ its origin from the ligament of the carpus.
 φ The tendon common to the small flexor and abductor of the little finger.
 χ χ The abductor of the metacarpal bone of the little finger.
 ψ ω The abductor of the little finger, ω its origin from the pisiform bone and ligament of the wrist.
 Γ The opposing muscle of the thumb.
 Δ The aponeurosis encompassing the capsule of the joint of the thumb with its metacarpal bone, connected to the said capsule and to the common tendon of the extensor of the thumb.
 Θ The inner tail of the short flexor of the thumb.
 Λ The aponeurosis which the inner tail of the short flexor of the thumb gives to the common tendon of the extensor of the thumb.
 Ξ Π The abductor of the thumb. Π the tendinous end inserted into the first bone of the thumb.
 Σ The abductor of the index.
 Φ The outer interosseous muscle of the index.
 Ψ Ψ The tendon of the indicator.
 Ω The head of the outer interosseous muscle of the middle finger arising from the middle metacarpal bone.
 1 The head of the inner interosseous muscle of the middle finger arising from the metacarpal bone of the ring finger.
 2 The head of the inner interosseus, from the metacarpal bone of the little finger.
 3 The common tendon of the extensors of the little finger cut off as it passes along the back of that finger.
 4 5 The tendons of the common extensor of the fingers cut off. 4 that of the ring finger. 5 that of the middle finger, passing afterwards over the backs of those fingers 6. 6. with the aponeuroses they receive.
 7 The tendon of the common extensor of the fingers belonging to the index cut off.
 8 9 The common tendon of the indicator and common extensor of the fingers belonging to the index. 9 its end inserted into the second bone of the index.
 10 The aponeurosis which arising partly from the first lumbrical, and in part from the abductor of the index, joins itself to the common tendon of the extensor indicis.
 11 The tendon of the first lumbrical muscle.
 12 The tendon of the first lumbrical muscle, increased by a portion received from the tendon of the common extensor of the index, and running to the third bone of the index.
 13 The tendon of the inner interosseous muscle of the index, which being enlarged by a portion received from the common tendon of the extensor of the index, runs to the third bone of the index.
 14 The common tendinous end inserted into the third bone of the index. This is formed of the tendons 12 and 13 conjoined together.
 15 The tendon common to the outer interosseous and second lumbrical muscle of the middle finger; which tendon being increased by a portion from the tendon of the common extensor, runs to the third bone of the middle finger.
 Upon the inner side of the fingers may be seen the tendons of the sublimis and profundus.

In the arms.

In the left hand.

In the right hand.





THE THIRD ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

HERE again, most of the parts in the preceding Table being removed, in this third Figure, we exhibit the next order of muscles, together with some of the ligaments and parts of the Sceleton, which now appears more naked.

In this Figure are taken off, from the *head*; the temporal muscle, the masseters, the corrugators of the eye-brows, the elevators of the upper eye-lids, the ligaments by which the junctures of the eye-lids, in the greater angles, are tied to the nasal processes of the upper jaw-bones, the eye-lids themselves, with the continuations of the orbicular muscles which surround their margins, the nasals of the upper lips, the elevators of the corners of the mouth, the depressors of the lower lip. From the *neck*; the sterno-cleino-mastoidei, the elevators of the scapulæ, the coracohyoidei, the sternohyoidei, the digastric of the lower jaw, the stylohyoideus. From the *trunk*; the subclavians, the anterior serrati, both upper and lower, the recti, pyramidales and internal oblique muscles of the abdomen, the cremasters and testicles. From the *thighs*; the middle glutei, pectinei, long adductors, the recti, internal and external vasti, with the crurei. From the *legs and feet*; the ligaments belonging to the knee-pan and shin-bones, the tendons of the feminovoli, the proper extensors of the great toes, the long extensors of the toes, with the tendinous ends belonging to the first three of the smaller toes, the peronei tertii, the tendons of the plantares, the solei, the tendons of Achilles, the short flexors of the toes, the outer tail of the short flexor of the great toe, the capsule or sheath confining the tendon of the long flexor of the great toe, near the first bone of the toe. From the *arms*; the supraspinati, the bicipital flexors, with the long and short extensors of the cubit. From the *fore-arms and hands*; the sublime flexors, the ulnares interni, ends of the long supinators, long abductors of the thumbs, and less extensors of the thumbs. From the *right-hand*; the end of the short abductor of the thumb, part of the short flexor, which may be reckoned a second abductor, the opposer of the thumb, the abductor of the index, the small flexor and abductor of the little finger. Also from the cubit and *left-hand* are taken the tendon of the indicator, the greater extensor of the thumb, the common tendon of the greater and less extensor of the thumb, with its adjoining aponeurosis that invests the capsule of the joint of the thumb with its metacarpal bone, the opposer of the thumb, the abductor of the index, with its aponeurosis that joins to the common tendon of the extensors of the index.

a a The balls of the eyes.
b The cartilage of the hole through which passes the tendon of the upper oblique muscle of the eye; which cartilage supports and confines the said tendon.
c d The tendon of the superior oblique muscle of the eye, c part of it going to the notch or pulley near the internal side of the orbit. d the part that runs back to the globe of the eye after passing the pulley.
e e The straight muscles turning the eyes upward, and inserted into their hard coats.
f The rectus that turns the eye to the nose, fixed into the sclerotica.
g The rectus that turns the eye from the nose, fixed to the sclerotica.
h h The recti depressing the eyes, fixed into the sclerotica.
i i k The lower oblique muscles of the eyes. k their origin from the upper jaw, in the bottom of the orbit, near its edge, betwixt the future proper to the said jaw, and the os unguis.
l m The depressors of the wing of the nostrils. m the end inserted round the root of the wing.
n o p p Part of the sphincter of the mouth in the upper lip. o the part that is in the red margin of the lip. p p denote where the depressors of the corners of the mouth are cut off, from their insertion into the said sphincter, where it surrounds the upper lip at the angles of the mouth.
q r s t t Part of the sphincter of the mouth that is in the lower lip. q the part in the red margin of the lip. s here it passes under the fasciculus z, and is continued to the buccinator, and to part of the elevator of the corner of the mouth, and of the greater zygomatics joining it. t. t portions to the sphincter of the mouth, which they join from the lower jaw: afterwards they pass under portions of the buccinators z, and join themselves to the said buccinators.
u A sinus or space betwixt the portion of the buccinator z, and the portion t, where the latter joins the sphincter of the mouth; in which space are fixed some glandules.
v. v w x y z α The buccinators. w the part that goes into the sphincter of the mouth in the upper lip. x here part of it joins to the elevator of the corner of the mouth, and to part of the greater zygomatics. y the portion that goes into the sphincter of the mouth in the lower lip. z the portion that goes to the upper lip, and there joins the internal part of the sphincter of the mouth. α here it continues itself to the portion t, that joins the sphincter of the mouth.
 β . β γ δ The elevators of the chin. γ the part in which they are joined together. δ the fibres they intermix with the fat of the chin.
 ϵ ϵ The external pterygoideus, having a tendinous end,
 ζ The internal pterygoideus.
 η The mylohyoideus, inserted into the base of the hyoid bone.
 θ The Basiglossus arising from the basis and horn of the hyoid bone.
 ι Ceratoglossus arising from the horn of the hyoid bone.
 κ λ λ The os hyoides. κ its base. λ λ its horns.
 μ ν The larynx. μ the thyroide cartilage: betwixt χ ψ and ω is its upper process. ν the cricoide cartilage.
 ξ The wind-pipe.
 $\omicron$. $\omicron$ The cricothyroidei muscles. $\omicron$ the anterior part arising from the cricoide cartilage: and a little below this part is its back part.
 π π ϵ σ . π π ϵ σ ς The sternothyroidei. ϵ a separate portion that joins it; σ part of its extremity inserted into an eminence of the thyroide cartilage, which runs ob-

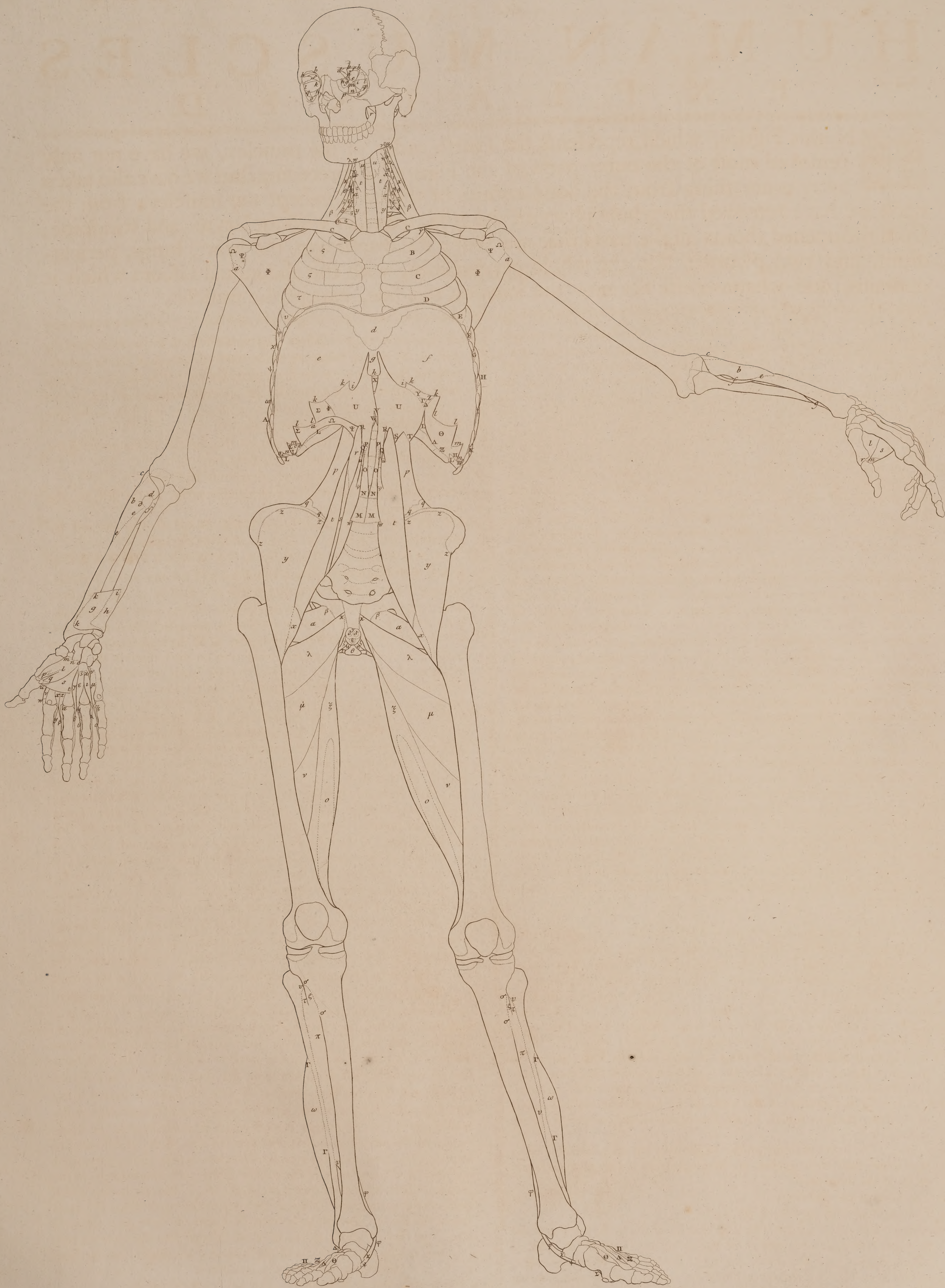
liquely thro' its external side: ς a part that joins itself to the posterior edge of the hyothyroidei, and with that belongs to the horn of the hyoid bone.
 ς τ υ ϕ . ς τ υ ϕ The hyothyroidei. τ the origin from the horn and basis of the hyoid bone. υ ϕ the extremity inserted at the bottom of the margin of the thyroide cartilage υ , before the eminence which runs obliquely thro' the outside of the said cartilage. ϕ the eminencies themselves.
 χ The common extremity into which the stylopharyngeus palatopharyngeus and salpingopharyngeus conjoin themselves, the part produced from the stylopharyngeus.
 ψ The ligament which belongs to the end of the horn of the hyoid bone, from the upper process of the thyroide cartilage.
 ω The lower constrictor of the pharynx.
 Γ Γ The internal great recti muscles of the head.
 Δ Θ The longus colli. Θ the end coming from the back to the transverse process of the second vertebra of the neck; the tendinous part of which end see in the table following.
 Λ Λ The first anterior intertransversales of the neck.
 Ξ Ξ The elevators of the first ribs.
 Π Σ Φ Ψ Ω . Π Σ Φ Ψ Ω The first or anterior scaleni. Σ the origin from the first rib. Φ Ψ Ω its three extremities, of which Φ belongs to the transverse process of the second vertebra of the neck, reckoning from the back; Ψ to the third, and Ω to the fourth vertebra.
A B C D E The middle scaleni. B the origin from the first rib. C D E the extremities of which C belongs to the transverse process of the first vertebra of the neck from the back, D to the fifth, and E to the sixth and seventh.
E The trachelomastoideus muscle.
E The complexus muscle.
 $\mathcal{A}$ The upper oblique muscle of the head.
F F. F F Betwixt π and ϵ appears the pleura.
G H I K K. L. M. N. O. P. Q. R. S: G H I K K. L. M. N. O. P. Q. R. S The In the trunk and thighs.
external intercostals. G H I K K the first, L the second, M the third, N the fourth, O the fifth, P the sixth, Q the seventh, R the eighth, S the ninth. The first arises from the cartilaginous end of the first rib, H from the bony part of the rib, is inserted into the bony part of the second rib K K; in the same manner the following muscles arise from the bony part of the upper rib, and are inserted into the bone of the lower rib.
T U V W X. Y. Z. a. b. c. d. e. f: T U V W X. Y. Z. a. b. c. d. e. f The internal intercostals. T U V W X the first, Y the second, Z the third, a the fourth, b the fifth, c the sixth, d the seventh, e the eighth, f the ninth. The first arises from the cartilaginous end of the first rib U, and from the sternum V; it is inserted into the bony part of the second rib W, and its cartilaginous end X. In the same manner appears in the following muscles how they arise from the cartilaginous end and bony part of the upper rib, and are inserted into the cartilaginous and bony part of the lower rib. g. h. i. k: h denote parts of those intercostals which are inserted betwixt the cartilages of those ribs, after the meeting or conjunction of their cartilages.
l m n o p p q q r. l m n o p p q q r The transverse muscles of the abdomen; l the fleshy part, m the aponeurosis, n the origin from the cartilaginous end of the eleventh rib, o the origin from the spine of the ilium, p p the margin that comes from the tendinous edge of the external obliquus of the abdomen; q q here is cut off a part of the aponeurosis, which passes before the rectus and pyramidalis muscle. r the bottom margin of the upper part of the aponeurosis, which passes behind the rectus, and immediately adheres to the peritonæum.
s t t. s t t t The posterior lamellæ of the aponeuroses of the internal oblique muscles spread over the aponeuroses of the transverse muscles. t t t here it is cut off in the part where it first joins with the aponeuroses of the transverse muscles.
u v w. v w Here the aponeuroses of the transverse, with the posterior covering lamellæ of the aponeuroses belonging to the internal oblique muscles, insert themselves into the fore-part of the ensiform cartilage, not far from its tip u, into the edges of the said cartilage v v, and into its bony part w w.
x The triangular muscle of the sternum conjoined with the transversalis of the abdomen, and inserted with it. The same also holds on the other side.
y y The linea alba. z the opening in it, thro' which, in the embryo, pass out the umbilical arteries, with the umbilical vein and urachus.
 α α . α α From hence are cut off the aponeuroses of the external oblique muscles of the abdomen, with the anterior lamellæ of the aponeuroses belonging to the internal oblique muscles.
 β β β β β γ δ δ The peritonæum. γ δ δ the footsteps of the ligament γ , which was formerly the urachus, and of the ligaments δ δ which were formerly the umbilical arteries.
 ϵ ζ η θ . ϵ ζ η θ The chords of the spermatie vessels. ϵ ζ the two veins. η the artery: the veins, together with the artery, pass along beneath the transverse muscle, thro' the peritonæum to the upper part of the os pubis; to these vessels the vas deferens θ joins itself coming out of the pelvis, and then passes down together with them, thro' the groin to the scrotum.
 ι The synchondrosis, or conjunction of the ossa pubis, tied together by their ligaments.
 κ The penis cut off. See Table IV. following.
 λ The external sphincter of the anus.
 μ The accelerator urinæ; and the same is in the other side.

THIRD MUSCULAR TABLE.

The erector penis, which is also in the other side.
 ξοπεσ. ξοπεσ The left glutei. ο the origin from the os ilium. π the tendon which is inserted into the root of the great trochanter ε. π the fore-part of the muscle.
 σσ. σσ The internal iliaks. σ the origin from the spine of the ilium.
 τυ. τυ The great psoæ, or lumbal muscles. υ the tendon to which joins the flesh of the iliaks internus.
 φχ. φχ The external obturators. χ the origin from the os pubis.
 ψωΓ. ψωΓ The short adductors of the thighs, in which are impressed the footsteps of the long adductors and pectinei: see Tab. II. ω the head, which is outwardly tendinous, arising from the os pubis near its juncture. Γ its tendinous end from the same part.
 ΔΔΘΛΞ. ΔΔΘΛΞ The large adductors of the thighs. ΔΔ the part which is inserted into the ridge or spine of the thigh bone. ΘΛΞ the other part belonging to the condyle of the thigh bone; Λ its tendinous surface, passing into the tendon Ξ.
 ΠΣΦ. ΠΣΦ The femimembranosi. Σ the tendinous surface passing into a tendon. Φ the thinner portion which sends out the tendon belonging to the internal margin of the tibia, or shin bone.
 ΩΑΒ. ΩΑΒ The graciles, in which are impressed the footsteps of the long adductors of the thighs; see Tab. II. Ω the origin from the ligament, tying together the ossa pubis at their juncture. Α the tendon, inserted into the tibia Β.
 CDEF. CDEF The shorter heads of the bicipital muscles of the legs. DEF the tendinous end, of which the principal part E, is inserted into the head of the fibula; F the part belonging to the tibia.
 In the legs and feet. GHIKKL. GHIKKL The long peronei, in which are impressed the marks of the long extensors of the toes (see Tab. II.) H the beginning of its upper origin from the head of the fibula, and from the tibia I. KK the beginning of its lower part arising from the spine of the fibula. L the tendon arising from the outer part of its flesh.
 MNNO. MNNO The short peronei, in which are impressed the marks of the long extensors of the toes; see Tab. II. NN the origin from the fibula. O the tendon.
 PQQRRSSTU. PQQRRSSTU The tibiales postici. QQ the origin from the tibia, and from the spine of the fibula. RRSS TU the tendon, which being partly inserted into the navicular bone T, the portion U runs to the greater cuneiform bone.
 VW. VW The long flexors of the great toes. W the tendon.
 XYYZa. XYYZa The long flexors of the toes. YY the origin from the tibia. Z the beginning of the tendon, a the tendon itself.
 bc. bc The portions which join the long flexors of the toes in the soles of the feet. c the origin from the calcaneum.
 d The inner tail of the short flexor of the great toe, that is next the small toes.
 efghikl. efghikl The short extensors of the toes, which divide into five portions. f the tendon of the portion belonging to the great toe, inserted into the first bone at g. h the tendon of a portion sometimes found running to the side of the first toe that is next to the great toe. i the tendon of the portion belonging to the first of the small toes, k that to the second, and l to the third.
 mm. m The first interosseus muscles of the first small toes. Betwixt i and k in the left foot is the second interosseus of the first small toe, betwixt k and l, left, is the second interosseus of the second small toe.
 n. o. p left. The tendons of the long extensors of the toes cut off. n that which belongs to the first of the small toes, o that of the second, p that to the third, and so likewise in the right foot.
 q The common tendon of the long and short extensors of the toes inserted into the bone of the second phalanx. r part of the same, running to the third bone. s the tendon to the third bone from the tendon of the short extensor of the toes. t the common end of the two portions to the third bone, wherein it is inserted. u an aponeurosis joining to the tendon q, and going partly to the capsule of the joint of this toe, with its metatarsal bone, coming partly from the interosseus of that side, in part from the lumbrical muscle, and partly from the side of the bone of the first phalanx. The same holds in the second and third of the small toes of this foot, and in the three first of the left foot.
 In the shoulders, arms, and hands. vwx. vwx The subcapulares. wx the tendinous part of its extremity, inserted into the less unequal protuberance of the upper head of the humerus, at x. y the fleshy part of its end inserted into the humerus below its head.
 za. z The teres major. α its tendinous end inserted into the humerus.
 βγδεε. βγδεε Part of the shorter heads of the bicipital muscles of the arms, outwardly tendinous, and cut off at γ. γ; having a common origin with the coracobrachiales at δ. δ, from the coracoid processes of the scapula; at εε. εε they are conjoined with the coracobrachiales.
 ζη. ζη The coracobrachiales, divided by a nerve that passes thro' in the part η.
 θι. θι The external brachiales. ι the tendon, which arising from its surface, ends in the posterior condyle of the humerus.
 κλμνξο. κλμνξο The brachiales interni. λ. μ the forked beginning by which it arises from the humerus. ν its origin from the edge of the humerus. ξ the lower part upon which lies the long supinator. ο the tendinous surface.
 πρ The longer external radial muscle of the right hand. ρ the tendon.
 σςστυ The longer external radial muscle of the left hand, which here divides itself into two. σ the tendon of the principal part, which is also itself the most considerable. ς the tendon of the less portion which joins itself with the other, and together forms the common tendon. τ inserted into the metacarpal bone of the index υ.
 φχ. φφχχψ The shorter external radial muscles. χχ the tendon inserted into the two metacarpal bones ψ of the index and middle finger.
 ωΓΔΘ. ωΘ The short supinators. ΓΔ the end which is inserted at the root of the tubercle of the radius, and into the radius itself, below the said tubercle Δ. Θ the back part.
 Λ The extremity of the round pronator which is here cut off.
 ΞΞ The pronator quadratus, or square pronator of the radius.
 ΠΠΣΣΦΨΩΑΒ. ΠΦΨΩ The long flexors of the thumbs. ΣΣ its origin from the radius, ΦΨ the portion which joins it arising from the greater condyle of the humerus, but seldom found; and which forms a tendon Ψ, that joins itself to the fleshy part of the flexor, and makes up the first rise of its tendon ΩΑΒ, of which the part Ω adheres to the fleshy portion of the flexor, the part Α going along by the metacarpal bone of the thumb, is there in a manner split longitudinally, and at length inserted into the extremity of the last bone of the thumb Β.
 CCDEFGHHIIKKLLMMM. CCDEFIKL The profound flexors. D its origin from the ulna, EFG three tendons arising from its fleshy belly,

and betwixt which are fleshy fibres. The first of these, E, goes into the tendon of the index HH; the second, F, into the middle tendon II; and the third, G, into the two KL, of which one K K belongs to the ring finger, and the other to the little finger LL. Where these tendons run along the fingers and palm, they are in a manner slit longitudinally, up to their extremities MMMM, which are inserted backwards into the bones of the third or last phalanx.
 NOPQR The ligament of the wrist, which, together with the carpal sinus, forms a canal that confines or retains the tendons coming from the fore arm to the fingers and thumb, namely, of the sublimis, profundus, and long flexor of the thumb. O its origin from the navicular bone of the wrist, and from the internal protuberance of the larger multangular bone P, from the pisiform bone Q, and from the crooked process of the cuneiform bone R, S the canal thro' which passes the tendon of the internal radialis.
 T The ligament from the pisiform bone belonging to the fourth metacarpal bone.
 UVWXY The adductor of the metacarpal bone of the little finger. V its origin from the crooked process of the cuneiform bone, and from the ligament of the wrist W. It is inserted into the metacarpal bone of the little finger at X Y.
 Z Za The short flexor of the thumb, a its tendinous end inserted into the sesamoid bone of the thumb which is farthest from the index.
 b b The adductor of the thumb. c d d e f the first lumbrical. d d its origin from the tendon of the profundus belonging to the index; and from the thicker part of those two tendons, in which the profundus is in a manner divided longitudinally. e the aponeurosis which joins it with the aponeurosis of the abductor indicis, and with that communicates with the common tendon of the extensor indicis. f the tendon which joins itself with the common extensor of the index, and then goes to the third bone of the index.
 g h i The second lumbrical muscle. h i its origin, from the tendon of the profundus of the middle finger h, and from the thicker part of those into which that tendon is in a manner split longitudinally: but the thinner part of it arises from the tendon of the profundus i, belonging to the index. Its tendon joins that of the former interosseus of the middle finger.
 k l m The third lumbrical muscle. l m its origin from the tendon of the profundus belonging to the middle finger l, and from the thinner portion of those into which it is split in a manner longitudinally: also from the tendon of the profundus the thicker part of it belonging to the ring finger m. Its tendon joins the tendon of the outer interosseus of the ring finger.
 n o The fourth lumbrical muscle. o its origin from the tendon of the profundus belonging to the little finger; and from the thicker of those portions into which the tendon is in a manner split longitudinally. Its tendon joins that of the outer interosseus of the little finger.
 p The tendon common to the fourth lumbrical muscle with the outer interosseus of the little finger; which tendon joins itself with that of the common extensor and goes to the third bone of the little finger.
 q The tendon of the posterior or inner interosseus muscle of the ring finger where it joins with the tendon of the common extensor, running afterwards to the third bone of the ring finger.
 r The outer interosseus of the ring finger.
 s The tendon common to the third lumbrical muscle, with the outer interosseus of the ring finger, which tendon joins itself with that of the common extensor, and goes to the third bone of the ring finger.
 t u The inner interosseus of the middle finger. u the tendon by which it joins the tendon of the common extensor, and goes to the third bone of this finger.
 v The outer interosseus of the middle finger.
 w The tendon common to the second lumbrical and outer interosseus of the middle finger, which joining the tendon of the common extensor, goes to the third bone of the middle finger.
 xy The inner interosseus of the index. y the tendon by which it joins the tendon of the common extensor of the index, and then goes to the third bone of the index.
 z The outer interosseus of the index, its tendinous end being inserted into the first bone of the index.
 a b The short flexor of the thumb. b the tendinous expansion, by which it joins the aponeurosis that invests the capsule of the joint of the thumb with its metacarpal bone, and therewith joins to the tendon of the common extensor of the thumb.
 c d The adductor of the thumb. d the tendinous end inserted into the first bone of the thumb.
 e f The outer interosseus of the index, arising from the metacarpal bone of that finger, and inserted with its tendinous end f, into the first bone of the index.
 g The head of the outer interosseus of the middle finger, arising from the metacarpal bone of that finger.
 h The head of the inner interosseus of the middle finger, arising from the metacarpal bone of the ring finger.
 i The head of the inner interosseus of the ring finger, arising from the metacarpal bone of that finger.
 k The tendon of the indicator muscle cut off.
 l The tendon of the common extensor to the index cut off.
 m The tendon common to the indicator, and common extensor belonging to the index; n its extremity inserted into the third bone of the index.
 opq The first lumbrical muscle. p the tendon, q the aponeurosis which joins it with the aponeurosis of the abductor indicis, and with that adheres to the tendon of the common extensors of the index. r the tendon of this muscle conjoined with the tendon of the common extensors of the index, and being increased by a portion received from thence it runs down s, to the third bone of the index.
 t The tendon of the inner interosseus of the index, which being increased by a portion received from the tendon of the extensors common to the index, runs to the third bone of the index.
 u The tendinous end common to the tendons s and t joined together in one, and inserted into the third bone of the index.
 vw The tendons of the common extensors cut off, belonging to the middle finger v, and to the ring finger w; after which they run down the backs of the fingers with the aponeuroses which they receive.
 x The tendon of the common extensors, to the little finger cut off, descending along the back of that finger.
 y The tendon common to the outer interosseus of the middle finger, and second lumbrical muscle; which tendon having received a portion from the common extensor, that supplies the middle finger, is thereby enlarged, and joins itself with the tendon z of the inner interosseus of the same finger; it is also increased by a portion which it receives from the tendon of the common extensor belonging to the middle finger; and the common tendinous end, arising from this conjunction, then ends in the third bone of this finger.





THE FOURTH ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

IN this Figure, which represents the fourth order of the muscles, we have not only removed most of the outer parts of the Figure last preceding, but we have also taken away every thing from the bony cavities of the eyes, except the muscles; from the neck we have removed the whole pharynx and gula, together with the larynx and windpipe; from the opened thorax all the parts that are above the diaphragm, the heart, lungs, pericardium, and two pleuræ: also the whole peritonæum, with the abdominal viscera which it contains, and whatever else lies near the loins on this side, except the muscles.

Here, from the third table, are taken off from the *head* balls of the eyes, with the extremities of the muscles inserted into them, the cartilage of the notch or pulley thro' which the tendon of the obliquus superior passes to the eye, the depressors of the sides of the nose, the sphincter of the mouth, the buccinators, the elevators of the chin, the external pterygoidei. From the *neck*, the mylohyoidei, the basioglossus, the ceratoglossus, hyoid bone, larynx, windpipe, cricothyroidei, sternothyroidei, hyothyroidei, the common extremity in which the stylopharyngeus, palatopharyngeus, and salpingopharyngeus join together, and the part produced from the stylopharyngeus; the ligament that goes from the upper process of the thyroide cartilage, to the end of the horn of the os hyoides, the lower constrictor of the pharynx, the larger internal straight muscles of the head, the first or anterior scaleni, the trachelomastoideus, complexus, and two pleuræ. From the *trunk* are taken the left external intercostals, the anterior extremities of the fourth, fifth, sixth, seventh, eighth, ninth, and tenth ribs, together with the lower part of the breast-bone, and the intermediate intercostal muscles; the transverse muscles of the abdomen, with the posterior plates of the aponeuroses, belonging to the internal obliqui of the abdomen, the triangulares sterni, the linea alba, cords of the spermatic vessels, and peritonæum. From the *pelvis* are taken the less glutei. From the *thighs* the short abductors, the femimembranosi graciles and bicipital muscles of the legs. From the *legs* and *feet* are taken the long peronei, the long flexors of the great toes, the long flexors of the small toes, the muscular portions which join the long flexors of the toes in the soles of the feet, the short extensors of the toes, the tendons of the long extensors of the toes, together with the other tendons and aponeuroses stretched over the backs of the toes: also from the left foot is taken the inner tail of the short flexor of the great toe. From the shoulder blades are taken the teretes majores. From the arms the coracobrachiales, together with the shorter heads of the bicipital muscles of the arms, and the brachiales external and internal. From the *fore-arms* and *hands* are taken the longer and shorter external radiales, the long flexors of the thumbs, and the profundis: from the right cubit the cut extremity of the pronator teres. Also from the right hand is taken the internal ligament of the wrist, the ligament from the pisiform to the fourth metacarpal bone, the adductor of the metacarpal bone of the little finger, and the lumbricales. From the left hand are taken all the muscles, tendons, and aponeuroses, except the adductor and short flexor of the thumb.

β γ δ ε ζ η θ ι κ λ μ ν. β δ ε ζ η θ ι κ λ The middle scaleni. γ the origin from the first rib. δ ε the tail belonging to the transverse process of the second vertebra of the neck, ε the tendinous end. ζ η the tail to the second, η the tendinous end. θ ι the tail to the third, ι the tendinous end. κ λ the tail to the fourth, λ the tendinous end. μ the tail to the fifth. ν the part which divides into the two last tails.

ξ. ο. π. ς: π. ς The intertransversales on the fore side of the neck. ξ the fourth, ο the third, π the second, ς the first.

σ. σ The elevators of the first ribs inserted into those ribs.

ςς. ςς. ττ. υ. φ. χ. ψ. ω. A The external intercostals. ςς the first, &c. the left are here taken away.

B. C. C. D. E. F. G. H. I. K. L. L. B. C. C. C. D. L. L. L The internal intercostals. B B the first, &c. L L. L L L the eleventh.

M M N N N O O P P Q Q R R S T U U V W X Y Z Γ Δ Θ Λ Ξ Π Π

Σ Σ Σ Φ Ψ Ω a b c d e f g h i k k k k l l l l m m n n o o The dia-

phragm. M M N N O O P P Q Q R R S T U U V W X Y Z Γ Δ Θ Λ

Ξ Π Π Σ Σ Σ Φ Ψ Ω a b c c that part which lies next the abdomen.

d e f g h i k k k k l l l l m m n n o o the part which lies next the tho-

rax. M N O P. M N O P the first heads; M M the tendinous expansions

which arise from the ligaments, which run on the surfaces of the bodies

of the vertebrae of the loins and join to those heads outwardly; at N N

below they arise with a thick tendon O, from the lower part of the body

of the third vertebra of the loins: P P the fleshy portions in which those

tendons terminate. Q Q the second heads. R R the third heads. S S the

fourth head of the left side. T a beginning which I have sometimes found

arising from the surface of the quadratus of the loins. U U the first fleshy

parts of the diaphragm formed by the conjunction of its heads. V a por-

tion of the left first head going to the first fleshy portion of the right

side, and afterwards running thro' the right margin of the hole through

which the gula passes out. W part of the first right head which going

behind the portion V crosses the same and goes beyond it into the first

left fleshy part. X the hole thro' which the gula passes out. Y Z Γ Δ

the left part of the middle tendon of which the part Y arises from the first

fleshy portion and goes into the second fleshy portion of the left side Z;

Γ a part climbing over the former and crossing the same. Δ climbs over

the next part, T crosses it and goes into the second fleshy portion of the

left side in the lower part. Θ the second left fleshy portion; Λ Ξ its ex-

tr extremity inserted into the twelfth rib as well the bony part Λ, as the car-

tilaginous Ξ: Π Π the margin of it cut off where it was continued to the

transversalis of the abdomen betwixt the two last ribs. Σ Σ Σ Φ the second

right fleshy portion, here Φ first climbing over and crossing soon after-

wards becomes tendinous. Ψ Ω a portion sometimes found in one and

sometimes in both sides forming the lower margin of the diaphragm in

this part; and which in this body (but variously in others) arises from

the transverse process of the fourth vertebra of the loins, and also from

that of the fifth, first of all tendinous Ψ; (but differently in different

subjects) and then the fleshy portion Ω joins itself to the second fleshy

part Σ, uniting with it behind a, and is inserted into the cartilage of the

twelfth rib b. c c the margin cut off which was continued to the trans-

versalis of the abdomen betwixt the two last ribs. d the middle tendon

in which the tendinous fibres cross each other. e f the fleshy parts right

and left. g the extremity of the middle fleshy part that belongs to the

ensiform cartilage from whence it is cut off at h. i i the extremities which

unite to the peritonæum. k k k k the extremities cut off from the inner

side of the seventh ribs. l l l l those from the eighth ribs. m m those from the

ninth. n n those from the tenth. o o those inserted into the eleventh ribs.

p q q. p q q The square muscles of the loins. q q the origin from the spine

of the os ilium beginning outwardly tendinous.

r s The small psoas. s the tendon. The left is not exhibited.

t u v w x. t u v w x The great psoæ or lumbal muscles. u the third head

and its origin from the lower part of the body of the fourth vertebra of

the loins, and from the ligament interposed betwixt that and the body of

the third vertebra. v the fourth head, and its origin from the lower part

[g]

In the head, neck and trunk. a b b. b b The elevators of the upper eye-lids. b b the extremity cut off.

c d The upper obliquus of the eye. c its origin from the internal side of the margin of the optical hole. d the end cut off, where it enters the pulley.

e f f The strait elevators of the eyes. e the origin, partly from the upper side of the margin of the optical hole, and in part betwixt the said hole, and what follows below it. f the extremity cut off.

g h The strait adductor of the eye. g its origin from the edge of the optical hole towards the nose. h its extremity cut off.

i l. k l The strait abductors of the eyes. i the origin from the lower part of the margin of the hole that lies below the optical foramen; it beginning where the round hole is near the slit into which it opens. l the extremity cut off.

m. n The strait depressors of the eyes. m the origin from the lower part of the bony portion, which divides the optical hole, and from thence downward.

o p q. o q The lower oblique muscles of the eyes cut off where they insert themselves into their globes. p the origin from the edge of the bony orbit. q the inner part.

r The internal pterygoideus.

s The upper oblique muscle of the head.

t u v w x y z α. t u w x y z α The long muscles of the neck. t u v w x the principal part which belongs to the bodies of the vertebrae, a part of which, marked u, is tendinous. v w x the heads from a tendinous origin, arising from the transverse processes of the vertebrae of the neck: v that from the fourth, w from the third, x from the second. y z α the part which belongs to the transverse processes, the tail of which z α belongs to the transverse process of the second vertebra of the neck, being tendinous in the part α.

In the trunk, and lower extremities.

FOURTH MUSCULAR TABLE.

of the body of the third vertebra of the loins and the ligament betwixt that and the second. w the fifth head and its origin from the lower part of the body of the second vertebra of the loins and the ligament betwixt that and the body of the first. x the tendon which joins to the fleshy part of the iliacus internus.

y z z z. y z z z The internal iliaks. z z z the origin from the edge of the os ilium.

αβ. αβ The external obturators. β the origin from the os pubis.

γ δ δ ε The penis cut off. δ δ the larger cavernous bodies. ε the less cavernous body with the urethra.

ζ ζ The erectors of the penis.

η η The accelerators.

θ The external sphincter of the anus.

ι ι The transverse muscles of the perinaeum.

κ λ μ ν ξ ο. κ λ μ ν ξ ο The large adductors of the thighs. κ the origin from the os pubis. λ μ ν the portions which are in some measure distinguished from each other chiefly by the course of their fibres, which all together make the upper part of this muscle inserted along the posterior rough line of the thigh bone. ξ ο the part which is more distinct going from thence to the lower extremity belonging to the inner condyle: ο the tendon arising from the fleshy part.

π ρ σ τ υ υ φ χ ψ. π ρ σ σ τ υ υ φ χ ψ The tibiales postici. ρ the beginning that arises from the tibia. σ σ the origin from the tibia. τ the beginning of its origin from the fibula. υ υ the origin itself from the fibula. φ χ ψ the tendon inserted into the navicular bone χ, and running along in a more slender portion to the great cuneiform bone ψ.

ω ι ι Δ. ω ι ι The short peronei. ι ι the origin from the fibula. Δ the tendon.

Θ Θ The first interossei of the second toes arising from the metatarsal bones of those toes.

Λ Λ The heads of the second interossei of the second toes which arise from the metatarsal bones of the third toes.

Ξ Ξ The heads of the second interossei of the third toes arising from the metatarsal bones of the fourth toes.

Π Π The heads of the second interossei of the fourth toes which arise from the metatarsal bones of the fifth.

Σ The adductor of the great toe.

Φ Ψ Ω α. Φ Ψ Ω α The subscapulares. Ψ the tendinous ends inserted into the less unequal protuberance of the upper head of the humerus Ω α: the fleshy part inserted into the humerus below the said tubercle.

β γ δ ε ε f. β γ ε f The short supinators. γ the tendon by which it begins. δ δ its insertion round the tubercle of the radius and into the radius itself below the said tubercle ε ε. The posterior part f appears betwixt the ulna and radius.

g h i k k The square pronators. h the tendinous surface. i the origin from the ulna. k k the insertion into the radius.

l m n o p q. l r The short flexors of the thumbs. m the origin from the less multangular bone, from the unciform bone n, and from the cuneiform bone o. p the other tail inserted by a tendinous end into the sesamoid

bone that is farthest from the index. q the other inserted also by a tendinous end into the sesamoid bone that is nearest the index, and into the next part of the first bone of the thumb. r the aponeurosis which the short flexor sends out, and which joins with the aponeurosis investing the capsule that joins the thumb with its metacarpal bone, and together there-with adheres to the common tendinous extremity of the extensors of the thumb, the extremity of which is here cut off.

s t u. s u The adductors of the thumbs. t the origin from the metacarpal bone of the middle finger. u the tendinous end inserted into the first bone of the thumb.

v w The outer interosseus muscle of the index which is inserted by a tendinous end w, into the first bone of the said index.

x The posterior or inner interosseus of the index. y its tendon which, being increased by a portion received from the tendon of the extensors of the index, runs to the third bone of the said index.

z The outer interosseus muscle of the middle finger.

α The tendon of the second lumbrical muscle cut off.

β The tendon common to the second lumbrical and outer interosseus muscles of the middle finger, which tendon being increased by a portion received from the tendon of the common extensor belonging to the middle finger runs at last to the third bone of the said middle finger.

γ The inner interosseus muscle of the middle finger. δ its tendon, which being increased by a portion received from the tendon of the common extensor belonging to the middle finger runs at last to the third bone of the said middle finger.

ε ζ The outer interosseus muscle of the ring finger. ζ its origin from the metacarpal bone of that finger.

η The tendon of the third lumbrical muscle cut off.

θ The tendon common to the third lumbrical and outer interosseus muscle of the ring finger, which tendon being increased by a portion received from the tendon of the common extensor belonging to the ring finger runs to the third bone of the said ring finger.

ι κ The inner interosseus muscle of the ring finger. κ its origin from the metacarpal bone of that finger. λ its tendon which being increased by a portion received from the tendon of the common extensor belonging to the ring finger runs to the third bone of that finger.

μ ν The interosseus muscle of the little finger. ν its origin from the metacarpal bone of that finger.

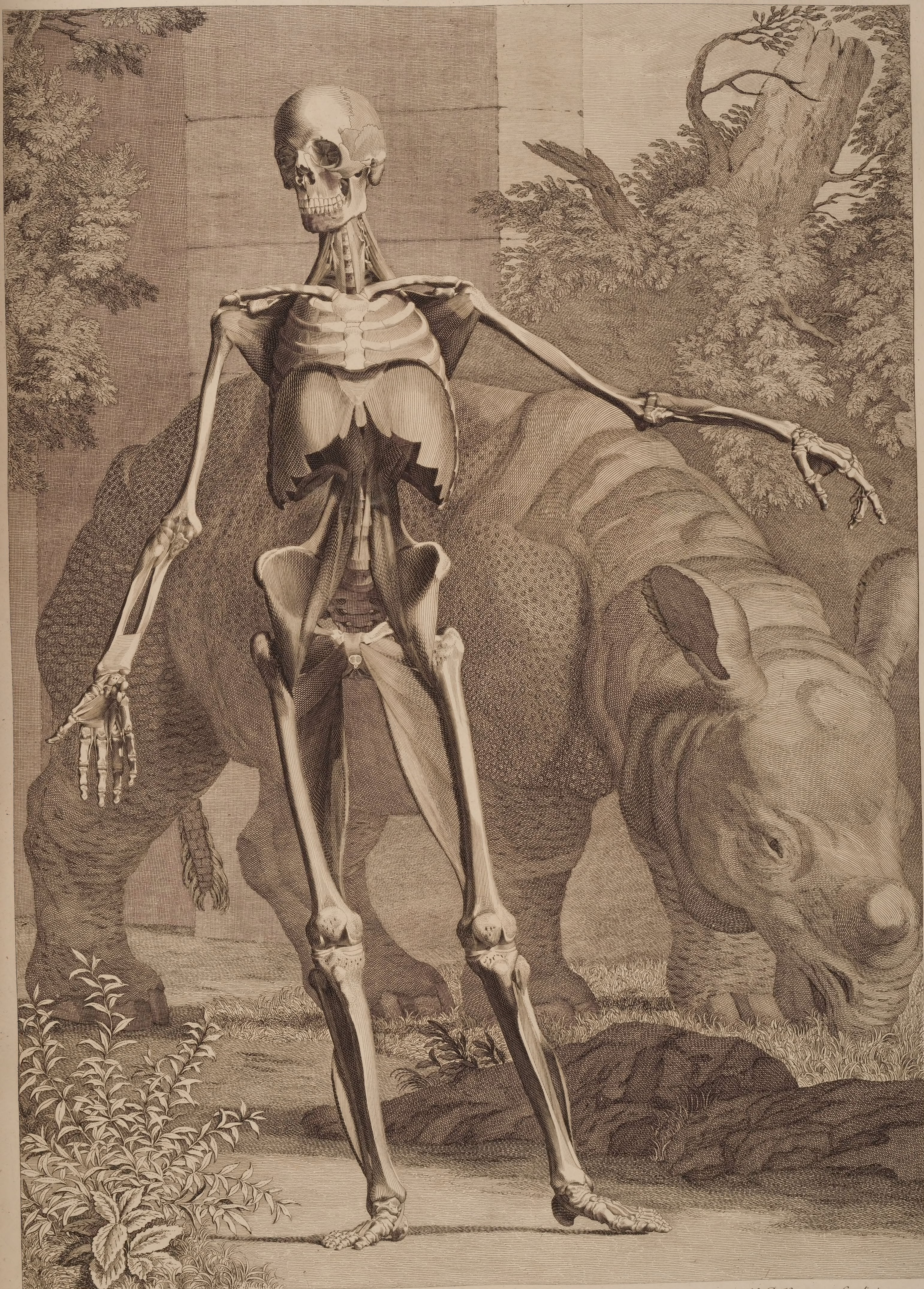
ξ The tendon of the fourth lumbrical muscle cut off.

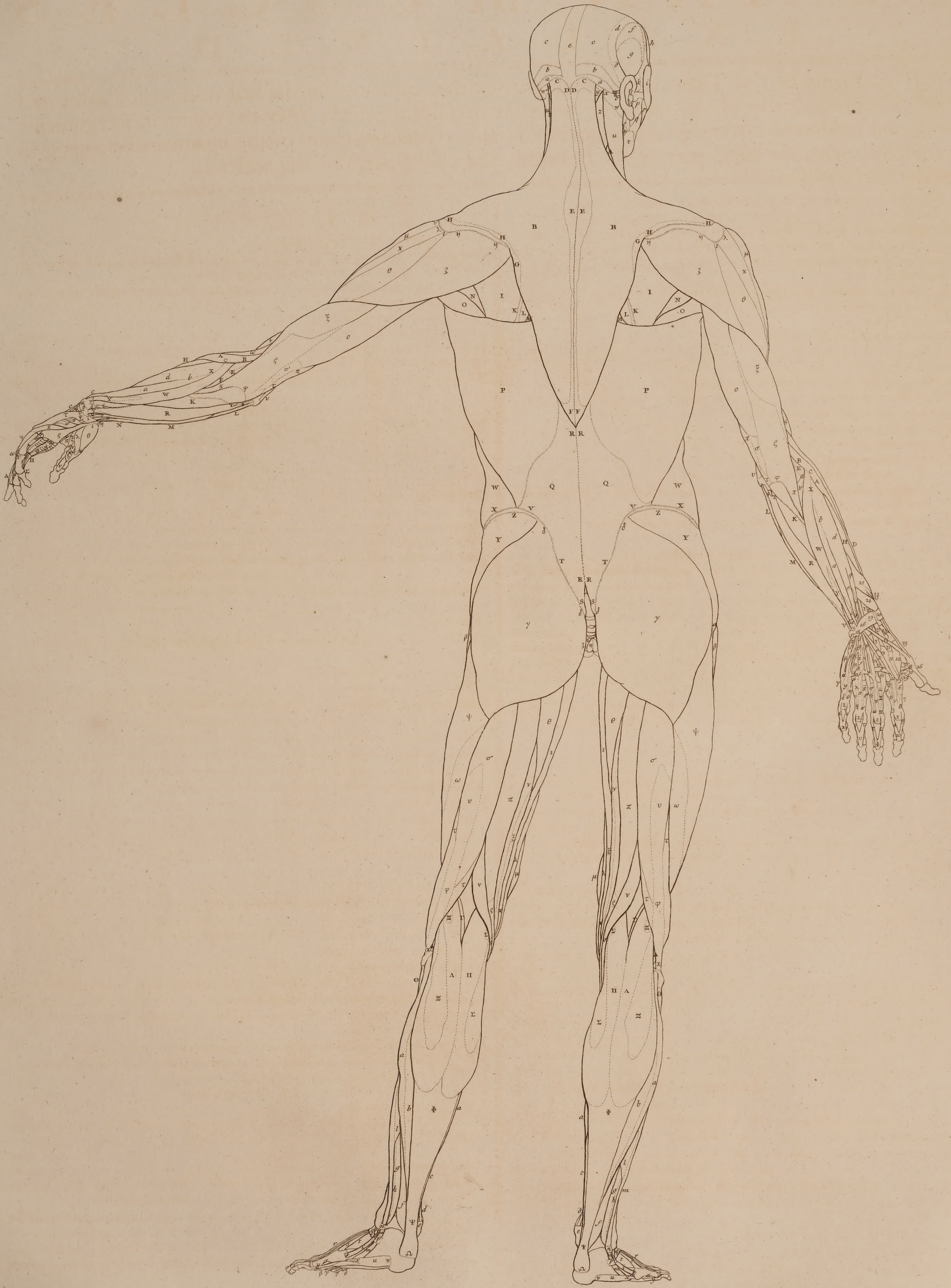
ο The tendon common to the fourth lumbrical and interosseus muscle of the little finger, which tendon being increased by a portion received from the tendon of the extensors of the little finger, then runs to the third bone of the said finger.

We conclude this table, and the eighth, by exhibiting in the back ground the figure of a female Rhinoceros that was shewed to us in the beginning of the year 1742, being two years and a half old, as the keepers reported. We thought the rarity of the beast would render these figures of it more agreeable than any other ornament, resulting from mere fancy. The figures are just, and of a magnitude proportionable to the human figure contained in those two tables.

In the
shoulders,
arms, and
hands.







THE
FIFTH ANATOMICAL TABLE
OF THE
HUMAN MUSCLES
EXPLAINED.

THE Figure of this Table is the back part of that contained in the first muscular Table; and it represents the whole system of the outer muscles together, after the common integuments and tendinous coverings are removed: it also represents many of the ligaments belonging to the muscles, with the ears, part of the scrotum, and naked parts of the Skeleton.

a b c. a b c d d. e The epicranii or occipito-frontal muscles. a b the Occipitalis. a its tendinous beginning. b its fleshy part. c d d the tendinous expansion betwixt the occipitalis and frontalis. d d shews the temporal muscle through the said expansion protuberant, e the membranous part by which the occipitales and their aponeuroses are joined together, arising above the origin of the cucullares from the occipital bone.

f g The elevator of the outer ear. f its tendinous beginning which goes off from the epicranii. g the fleshy part.

h The frontal muscle.

i The orbicular muscle of the eye-lids.

k The anterior muscle of the outer ear.

l The less muscle of the helix.

m n o The three muscles drawing back the outer ear.

p q The Masseter. p the back part of its inward portion, which is not covered by the outer portion. q the outward portion.

r The greater zygomatic muscle.

f The internal pterygoide muscle.

s The mylohyoideus muscle.

t The latissimus colli or broadest muscle of the neck.

u w x The sternomastoideus with the cleidomastoideus conjoined together into one. w the tendinous end inserted into the occipital bone at x.

y y The biventral muscle of the neck inserted into the occipital bone.

z z The splenii muscles of the head.

A The elevator muscle of the scapula or shoulder-blade.

B C D E F G H H. B C D E F G H H The cucullares. B the fleshy part. C D E F the tendinous beginning. C the part arising from the occipital bone and adhering outwardly with its fellow muscle along the tract D E F, which arises internally from all the spines of the back, the two lowermost of the neck, and the cervical ligament. E the tendinous expansion of its beginning which is broader towards the bottom of the neck and upper part of the back. F another part of the same in the lower angle. G the end of the tendinous part which is inserted into the spine of the scapula not far from its basis. H H the tendinous part of the extremity inserted into the spine of the scapula and its upper process.

I K. I K The infraspinatus on each side. K its origin from the basis of the scapula.

L L The larger rhomboidal muscles inserted into the basis of each scapula.

M M The sacrolumbales muscles.

N N The less teretes.

O O The larger teretes.

P Q R R S T V. P Q R R S T V The latissimi dorsi or broadest muscles of the back. P the fleshy part. Q the broad tendon by which it arises. R R its origin from the spines of the vertebræ of the loins and os sacrum. S its origin from the oblique processes that are at the sides of the opening of the os sacrum. T its adhesion with the gluteus magnus. V its origin from the spine of the ilium.

W X. W X The fleshy parts of the external oblique muscles of the abdomen, X X their insertions into the spines of the ossa ilia.

Y Z. Y Z a The middle glutei. Z the origin from the os ilium. a the tendon.

β β The extensors of the tendinous coverings of the thighs.

γ δ δ. γ δ δ The largest glutei. δ δ in this part it arises from the spine of the ilium and os sacrum and coheres with the latissimus dorsi.

ε The elevator of the anus. A small part of the right elevator may be also seen on the right side.

Between ζ and η is the transverse muscle of the perinæum.

η The external sphincter of the anus.

θ θ The large adductors of the thighs.

ι κ. ι κ The graciles. κ the tendon.

λ λ The sartorii, or Taylor's muscles.

μ μ The internal vast muscles.

ν ξ ο. ν ν ξ ο The femimembranosi. ξ the origin of the tendon from the fleshy part. ο the tendon.

π ς. π ς The feminervi or semitendinosi. ς the tendon.

σ τ τ υ φ χ. σ τ τ υ φ ψ The bicipital muscles of the legs. σ the longer head. τ τ the shorter head. υ φ χ the tendon, υ the first portion arising from the surface of the fleshy part of the longer head, and afterwards increased by the joining of the shorter head χ, φ the extremity inserted into the upper head of the fibula.

ψ ω. ψ ω The external vasti. ψ the tendinous surface.

Γ c. Γ c The plantares.

Δ Δ The poplitei or muscles of the hams.

Θ 1 & c. Θ 1 & c. The long peronei.

Λ Ξ Ξ Π Σ Σ Φ. Λ Ξ Ξ Π Σ Σ Φ The gemelli or gastrocnemii muscles. Λ Ξ Ξ the outer head. Ξ Ξ the tendinous surface. Π Σ Σ the inner head. Σ Σ the tendinous surface. Φ the tendon which forms part of the tendo Achillis.

Ψ Ω. Ψ Ω The tendons called Achillis inserted into the heel bones Ω Ω.

a a b. a a b The solei. b the tendinous surface.

c c The tendons of the plantal muscles.

d d The tendons of the tibiales postici.

Between the tendons d and ψ in the left foot; and d and the tendon of the right plantaris, appear the tendons of the long flexors of the toes.

ε ε The ligaments which confine the tendons near the internal ancles under which they pass along.

f f The long flexors of the great toes.

g h i k. g h i k The short peronei. h the origin of the tendon from the fleshy part. i i the tendon. k its insertion into the fifth metatarsal bone.

l m m m. l m m m The long peronei. m m m the tendon.

n n The ligaments by which the tendons of the long and short peronei are retained at the outer ancles.

o o The ligaments proper to the short peronei.

p p The ligaments proper to the long peronei.

q q The ligaments by which the tendons are confined at the bottom of the leg and upon the back of the foot.

r r The tendons of the long extensors of the toes.

s s The tendons of the third peronei inserted into the metatarsal bones of the little toes.

t t The short extensors of the toes.

u w x y z. u w x y z The abductors of the little toes, in the part u covered with a tendinous expansion. w its origin from the calcaneum. x the aponeurosis that covers the part which is inserted into the metatarsal bone of the little toe. y the tendon of the abductor inserted into the first bone of the little toe. z the aponeurosis which joins the tendon of the long extensor belonging to the little toe.

α β. α The short flexors of the little toes. α the part inserted into the metatarsal bone of the little toe. β the part inserted by a tendinous end into the first bone of the little toe.

γ γ The tendon of the long flexor of the great toe, passing along betwixt the sesamoid bones.

δ The abductor of the great toe.

ε The short flexor of the toes.

ζ η θ ι κ λ μ ν. ζ η θ ι κ λ μ The deltoide muscles. ζ η η the first order of the portions of which it is composed, η η the second and posterior order, arising from the spine and upper process of the scapula. θ ι the posterior portion of the second order, arising from the upper process ι. κ λ the fourth portion of the second order, arising with the flexor of the cubit from the upper process λ. μ ν the middle portion of the second order, arising from the upper process ν.

ξ ο π ς σ τ υ φ χ. ξ ο π ς σ τ υ φ χ The tricipital extensors of the arms. ξ the brevis. ο the longus. π the brachialis externus. ς the common tendon of these three heads. σ the tendinous part that is formed by the longus and joins the common tendon. τ the tendinous part in the right arm, formed by the external brachialis, and joining the common tendon: in the left arm τ is placed at the origin of this tendon from the fleshy part. υ the tendinous part arising from the surface of the external brachialis, and belonging to the greater condyle of the humerus. φ the common tendon inserted into the elbow. χ the thinner horn of the said tendon, inserted into the anterior edge of the elbow, and adjacent spine of the ulna.

ψ ψ The internal brachiales.

ω ω The long supinators.

A B C D D D D. A B C The longer external radiales. B the origin from the less condyle of the humerus. C its conjunction and common origin with common extensor of the fingers and outer ulnaris. D D D D the tendon inserted into the metacarpal bone of the index.

E E The external brachiales arising from the roots of the less condyles.

F G. F The anconeï. G the tendon arising from the less condyle of the humerus.

H. H I I I The shorter external radiales. I I I the tendon.

K. K The profound flexors, arising from each ulna.

L L The long palmares.

M. M N O P Q The sublime flexors. N the portion belonging to the middle finger. O that to the index. P that to the ring finger. Q that to the little finger.

R S T V. R S T V The internal ulnares. S T their originations, S arising from the greater condyle of the humerus, and cohering with the common tendinous head of the muscles arising from that condyle: the other origin T is from the elbow. V the tendon inserted into the pisiform bone of the wrist.

W X Y Y. W X Y Z The external ulnares. X its beginning conjoined with the beginning of the common extensor of the fingers. Y Z the tendon belonging to the fourth metacarpal bone of the hand Z. Between the tendon Z and the tendon c on the back of the right hand is a small tendon from this external ulnaris to the little finger.

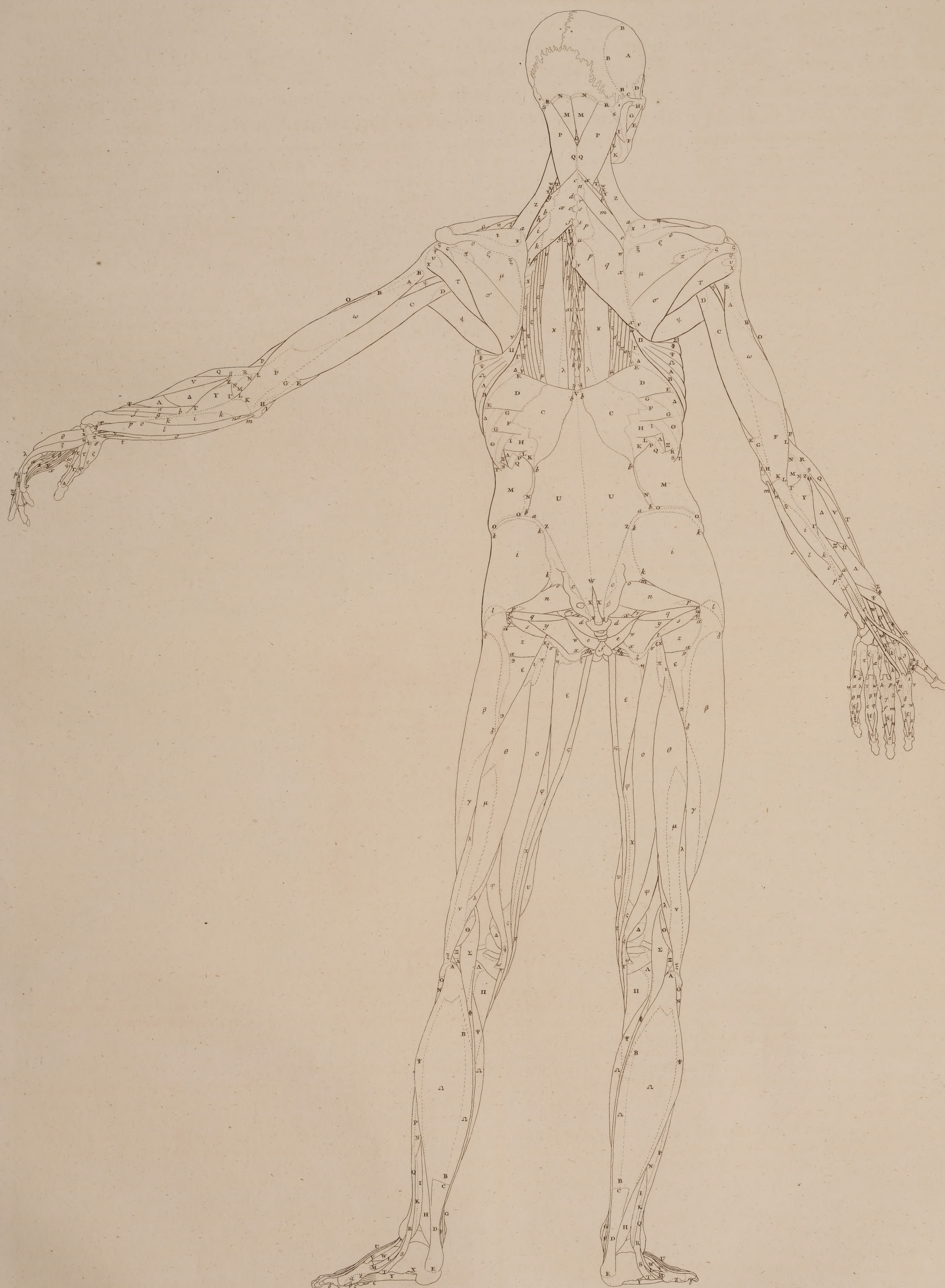
a b c c. a b c c The extensors proper to the little fingers. b the origin conjoined with the origin of the common extensors of the fingers. c c the tendon which runs in a small degree split, over the back of the hand.

FIFTH MUSCULAR TABLE.

- d. d e f f g h i k l m n o p p q r r s The common extensors of the fingers. e f f g h i k l m n o the portion belonging to the ring finger, f f the tendon which runs to the ring finger, having fissures as it passes along over the back of the hand. g a branch of this tendon which afterwards splits into two, one of which joins itself to the tendon c of the little finger, but is not always found; the other i divides again into two, of which k likewise joins the tendon c of the little finger, while the other (betwixt k and f below) goes to the trunk f of the little finger: l is a portion going off from the tendon f to the tendon c of the little finger: m the tendinous portion by which the trunk of the tendon f running to the ring finger joins the tendon of the little finger at the beginning of the fingers; which portion is composed of the two k and l, conjoined into one, below this, where the aponeurosis goes off from the tendon f. n the branch joining itself to the tendon p of the middle finger, not always found. o the tendinous portion by which the trunk of the tendon f running to the ring finger joins to the tendon p of the middle finger near its root or bend; and this portion is made up from the tendon n meeting with the aponeurosis which goes off from the trunk of the tendon f of the ring finger, near its root or joint. p p the tendon to the middle finger, in which is a fissure according to its course over the back of the hand, q r r the portion belonging to the index, r r the tendon. s the aponeurosis which arising from the tendon p of the middle finger goes to the tendon r of the index, and conjoins those tendons to each other at the roots of the fingers.
- t The tendon of the indicator.
- u The common tendon extending the index, formed of the tendon t of the indicator, and the tendon r of the common extensor to the index, joined together into one.
- v. w. x. y. z. z. z. z. z The tendons of the extensors of the fingers conjoined with the tendons and aponeuroses of the interossei and lumbricales as they pass along the backs of the fingers, &c. v that of the index formed of the tendon t of the indicator conjoined with the tendon r of the common extensor. w that of the middle finger, x that of the ring finger, both which are from the common extensor; y that of the little finger, which is formed of the tendon c, of the proper extensor of the little finger, conjoined with the portions h and k l m from the common extensor, joining with a portion from the extensor carpi ulnaris externus. z z z z the extremities of these tendons inserted into the bones of the second phalanx.
- α The aponeurosis, from the capsule of the joint of this finger, with its metacarpal bone, and belonging to the tendon of the extensor y.
- β γ The abductor of the little finger. γ the tendon.
- δ ε The common tendon of the abductor and short flexor of the little finger, conjoined at δ with the tendon y, and being increased by a portion received from thence it runs to the third bone of that finger.
- ζ The aponeurosis which joins the tendon y, arising in its upper part from the capsule of the joint of this finger with the metacarpus, and below springing from the tendon η of the interossei of the little finger, with which tendon is conjoined the tendon of the fourth lumbricalis.
- η The tendon of the interossei of the little finger, to which is joined the tendon of the fourth lumbricalis.
- θ The common tendon of the interossei of the little finger and fourth lumbricalis, conjoined at θ with the tendon y, and being increased by a portion received from thence runs to the third bone.
- κ The common end in which the tendons ε κ unite and go to the third bone.
- λ The aponeurosis which goes to the tendon x, in its upper part coming from the capsule of the joint of this finger with the metacarpus: and below springing from the tendon ν of the inner interossei of the ring finger.
- μ ν ξ ο The inner interossei of the ring finger. ν the tendon which afterwards joins at ξ with the tendon x, and being increased by a portion received from thence, runs to the third bone ο.
- π The aponeurosis which joins the tendon x, arising in its upper part from the capsule of the joint of this finger with the metacarpus: in its lower part springing from the tendon ε of the outer interossei of the ring finger, with which tendon is conjoined the tendon of the third lumbricalis.
- ς The tendon of the outer interossei of the ring finger, to which the tendon of the third lumbricalis joins itself.
- σ τ The tendon common to the outer interossei of the ring finger and third lumbricalis, conjoined at σ with the tendon x, and being increased by a portion received from thence, runs to the third bone τ.
- υ The common end in which the tendons ο. τ unite, and go to the third bone.
- φ The aponeurosis that goes to the tendon w, coming in its upper part from the capsule of the joint of this finger with its metacarpus: below springing from the tendon ψ of the inner interossei of this middle finger.
- χ ψ ω Γ The inner interossei of the middle finger. ψ the tendon which afterwards joins at ω with the tendon w, and being increased by a portion received from thence, runs to the third bone Γ.
- Δ The aponeurosis that joins the tendon w, coming above from the capsule of the joint of this finger with its metacarpus: in its lower part produced by the tendon Ε of the outer interossei of this middle finger, with which tendon is conjoined the tendon of the second lumbricalis.
- Θ Θ Θ Λ Ξ The outer interossei of the middle finger. Θ Θ Θ Λ the heads arising from the metacarpal bone of the index Θ Θ Θ and middle finger Λ. Ξ the tendon with which is conjoined the tendon of the second lumbricalis.
- Π Σ The tendon common to the outer interossei of the middle finger with the second lumbricalis, conjoined at Π with the tendon w, and being increased by a portion received from thence, runs to the third bone Σ.
- Φ The common end in which the tendons Γ. Σ, unite and go to the third bone.
- ¶ The aponeurosis that joins the tendon ν, in its upper part coming from the capsule of this joint with the metacarpus: in its lower part produced from the tendon 2 of the inner interossei muscle of this finger, the index.
1. 2. 3. 4 The inner interossei muscle of the index. 2 the tendon that afterwards joins itself to tendon ν, and being increased by a portion received from thence it runs to the third bone 4.
5. 6 The aponeurosis that joins the tendon ν, being in its upper part a production from the tendon of the abductor of the index, and in its lower part 6, from the first lumbricalis.
- 7 The tendon of the first lumbricalis, which afterwards conjoins itself 8 with the tendon ν, and being increased by a portion received from thence, runs to the third bone 9.
- 10 The common end in which the tendons 4 and 9 unite themselves, belonging to the third bone.
- 11 The outer interossei muscle of the index.
- 12 The abductor of the index.
- 13 The tendon of the greater extensor of the thumb.
14. 15 The ligament that confines the tendon of the ulnaris externus, arising from the radius betwixt the said ulnaris and extensor of the little finger, and terminating at the tendon of the ulnaris internus; in the part 15 it is conjoined with the ligament 16.
16. 17. 18. 19 The outer annular ligament, which arises from the pisiform bone 17, from the cuneiform bone 18, and from the eminence of the radius 19, which terminates the fore part of the groove that conducts or gives passage to the tendons of the radiales externi.
- 20 The ligament that confines the tendons of the long abductor and less extensor of the thumb, in one part arising from the eminence of the radius, from which also arises the ligament 16.
21. 22. 23. 23 The long abductor of the thumb. 22 the tendon of its upper part. 23. 23 the tendon of its lower part.
24. 25 The less extensor of the thumb. 25 the tendon.
- 26 The common end in which are conjoined the tendons (13 and 25) of the greater and less extensors of the thumb, and belonging to the third bone.
27. 28 The aponeurosis which joins itself to the common end (26) of the tendons of the extensors of the thumb, part of which aponeurosis (27) invests the capsule of the joint of the thumb with its metacarpal bone, and adheres to the said capsule; while the part (28) arises from the inner tail of the short flexor of the thumb. Betwixt 27 and 29 is the inner tail of the short flexor of the thumb.
- 29 30 The adductor of the thumb. 30 the tendinous end inserted into the first bone of the thumb.
- α β The outer annular ligament, inserted into the pisiform bone β, and continued to the ligament γ δ.
- γ δ The ligament that confines the tendon of the ulnaris externus, ending by the tendon of the ulnaris internus at δ.
- ε The square pronator muscle.
- ζ The ligament which with the groove of the wrist forms a channel wherein are confined the tendons passing from the cubit to the hand, namely, of the sublime and profound flexors, and of the long flexor of the thumb.
- η Part of the tendon given from the long to the short abductor of the thumb.
- θ κ The short abductor of the thumb. at κ it receives a part from the aponeurosis of the long palmaris. κ the tendinous end with the aponeurosis which it gives to the tendon of the extensors of the thumb.
- λ Part of the short flexor of the thumb, which may be esteem'd a second short abductor of it: 'tis inserted with its tendinous end into the first bone of the thumb.
- μ Two ligaments which confine the tendon of the long flexor of the thumb; the one seated above, at the joint of the thumb with its metacarpal bone; the other, just below the former, is affixed to the edges of the first bone, beginning simple, but afterwards split into two horns.
- ν ν The tendon of the long flexor of the thumb, inserted into the last bone of the thumb.
- ξ The inner tail of the short flexor of the thumb, inserted into the first phalanx and inner sesamoid bone.
- ο The first lumbricalis.
- π The adductor of the thumb.
- ς The aponeurosis or tendinous expansion of the long palmaris muscle.
- σ σ The square or short palmaris muscle.
- τ υ φ The abductor of the little finger, υ φ its origin from the pisiform bone υ, and from the inner ligament of the wrist φ.
- χ The small flexor of the little finger.
- ψ The tendon common to the small flexor and abductor of the little finger, conjoined with the tendon of the extensor of that finger.
- ω The end of the tendon of the extensor of the little finger belonging to the third bone.
- Γ The tendon running to the third bone, formed of the tendon ψ, and joined by a portion of the tendon of the extensor of the little finger.
- Δ Δ The tendons corresponding to those of ο τ υ 4. 9. 10, in the right hand.
- Θ The ligament by which are confined the tendons of the sublimis and profundus, as they pass along the bone of the first phalanx or order.
- Λ Three ligaments by which are retained the tendons of the sublimis and profundus at the joint of the finger with the metacarpus. We have fixed the letter only on the middle finger, but the same ligaments are also in the fore and ring finger.
- Ξ The tendons of the sublimis and profundus.
- Π The tendon of the profundus with one horn of the sublimis.
- Σ The tendon of the profundus.
- Φ The same parts (Θ Λ. Ξ. Π. Σ) are also pointed out in the other fingers.

In the lower part of the left cubit, and left hand.





THE
SIXTH ANATOMICAL TABLE
OF THE
HUMAN MUSCLES
EXPLAINED.

IN this Figure are expressed the second order of the muscles in the back part of the body, together with some of the ligaments and naked parts of the Sceleton, with part of the scrotum. This corresponds to the figure of the second table, of which this is the back view; but there is this difference, that in the present figure the Sternomastoidei and Cleidomastoidei muscles are taken away, the back parts of those muscles having been sufficiently represented in the fifth table.

The muscles exhibited in the last preceding table, and here taken away, are from the head, the epicranii, the elevator of the outer ear, the anterior and three retractive muscles of the outer ear, the ear itself, the orbicularis of the eye-lids, the greater zygomatic, and the latissimus colli. From the neck, back, and loins, are taken away the sternocleidomastoidei, the cucullares, latissimi dorso, and external oblique muscles of the abdomen, and also from the left side of the back is removed the greater and less rhomboides. From the hips and nates are taken the large glutei. From the thighs the sartorii. From the legs the gastrocnemii. From the feet the ligaments by which the tendons are confined near the inner angles, the ligaments by which the tendons of the long and short peronei are retained at the outer angles; the ligaments proper to the short peronei, the ligaments peculiar to the long peronei, the ligaments by which the tendons are confined at the bottom of the leg, and upon the backs of the feet, the abductors of the little toes; the aponeuroses joining the tendons belonging to the little toes, to the tendons of the long extensors of the other toes. From the arms are taken the deltoidei. From the fore-arms and beginning of the hands are taken the long supinators the common extensors of the fingers, the extensors proper to the little fingers, the external ulnares, the long palmares, the outer circular ligaments, the ligaments which confine the tendons of the outer ulnares. Also from the extreme part of the right fore-arm is taken the ligament by which are confined the tendons of the long abductor and short extensor of the thumb. From the left hand likewise is taken the short palmaris, the short abductor of the thumb, the ligaments by which is confined the tendon of the long flexor of the thumb, the ligaments by which are confined the tendons of the sublimis and profundus at the joints of the fingers, with their metacarpal bones, and those by which the tendons are confined at the first bones of the fingers.

A B B B C D The temporal muscle. B B B C the first beginning of its origin from the convexity of the parietal bone, B B B and from the mammillary process C. B the tendon.
E F G H The masseter. E F the outer portion, F the extremity inserted into the lower jaw. G H the back part of the inner portion, which is not covered by the outer portion; H its origin from the zygomatic process of the temporal bone and from the os jugale.
I The internal pterygoideus muscle, inserted into the lower jaw.
K The mylohyoideus arising from the lower jaw.
L The first belly of the digastric muscle of the lower jaw.
M N. M N The biventer or digastrics of the neck. N the tendinous end inserted into the occipital bone. Soon after O beneath appear the two interspinales colli betwixt the spine of the fifth and sixth vertebra of the neck.
P Q R S. P Q R S The splenei muscles of the head. Q the beginning or rising from the ligament of the neck. R S the tendinous end inserted into the occipital bone R, and into the mammillary bone and process S.
T. T U V The splenei muscles of the neck. U V the beginnings of which one U arises from the spine of the tenth vertebra of the back and the other V from the ninth.
W W The trachelomastoidei muscles.
X X Portions of the longissimi dorso muscles running to the neck.
Y Y The transverse muscles of the neck.
Z a. Z a The elevators of the shoulder-blades, arising from the scapula.
æ b. æ b c d e f g h i k l The posterior and upper serrati. æ the tendinous part, b the fleshy part, c d e f the origin from the ligament of the neck c, from the spine of the lower vertebra of the neck d, and the uppermost of the back e, and from the eleventh f. g h i k l the four extremities of which g belongs to the second rib, h to the third, i to the fourth, and k l to the fifth, inserted into that rib at l.
m n o The less rhomboides. n the tendinous beginning arising from the ligament of the neck. o the end inserted into the scapula. the left rhomboides is removed.
p q r s t u v w x x The greater rhomboides. p p the tendinous beginning. q the fleshy part. r s t u v the origin from the spines of the vertebrae, r that from the lowest of the neck, from the twelfth of the back s, from the eleventh t, from the tenth u, from the ninth v. w in this part it is incurved according to the basis of the scapulae without inserting itself. x x its insertion. The left is removed.
y The biventer of the neck.
z The semispinalis muscle of the back.
α β γ δ ε ζ η θ ι. α β γ δ ε ζ η θ ι The spinales of the back. β the portion that belongs to the spine of the eleventh vertebra of the back: γ that to the tenth: δ that to the ninth: ε that to the eighth: ζ that to the seventh: η that to the sixth: θ that to the fifth. ι the head by which it arises from the spine of the third vertebra.
κ λ. κ λ The longissimus dorso muscle, λ the tendinous part.
μ ν ξ ο π ρ σ τ υ. μ ν ξ ο π ρ σ τ υ The sacrolumbales. μ the fleshy part. ν the tendinous tail that belongs to the ninth rib: ξ that to the eighth: ο that to the seventh: π that to the sixth: ρ that to the fifth: σ that to the fourth: τ that to the third: υ that to the second: φ that to the first.
φ χ. φ χ ω Γ. Δ Δ. Θ. Λ. ω Γ. Δ Δ. Θ. Λ The outer intercostals. φ the fourth with the elevator of the fifth rib, χ the fifth, ψ the sixth, ω the seventh. Γ the eighth, Δ Δ the ninth, Θ the tenth, Λ the eleventh.
Ξ Ξ The eleventh internal intercostals.

Π Σ Φ Ψ Ω A B. Π Σ Φ Ψ Ω A B The great serrati muscles. Σ the head that arises from the fifth rib: Φ that from the sixth: Ψ that from the seventh: Ω that from the eighth: A that from the ninth: B that from the tenth rib.
C D E E F G G H I K L. C D E E F G G H I K L The posterior and lower serrati. C the tendinous part. D F H K the fleshy part. D the first head inserted into the ninth rib E E. F the second head inserted into the tenth rib G G. H the third head inserted into the eleventh rib I. K the fourth head inserted into the twelfth rib L.
M N O O P Q R S T. M N O O P Q R S T The internal oblique muscles of the abdomen. M the fleshy part. N the tendinous part. O O the tendinous beginning from the spine of the ilium. P Q the extremity inserted into the twelfth rib, into the bony part P and cartilage Q. R S the end inserted into the eleventh rib, into its bony part R and its cartilage S. T the end that belongs to the tenth rib.
U V W X Y Z a b b b. U V W X Y Z a b b b The broad tendons by which the latissimi dorso begin. V W its origin from the spines of the two lower vertebrae of the back, and all those of the loins and os sacrum. X Y its origin from the two oblique processes which are placed at the sides of the opening of the canal of the os sacrum in its lower part. Y Z the part in which it adhered with the gluteus magnus. a its origin from the spine of the ilium. b b b the broad tendon here cut off, where it no longer adheres with the tendon beneath, by which arise the lower serratus posticus and internal obliquus of the abdomen.
c c The multifidus muscle of the spine.
d d The coccygei muscles.
e e The elevators of the arms.
f The external sphincter of the arms.
g g The secondary transverse muscles of the perinaeum arising from the ossa pubis.
h h The transverse muscles of the perinaeum arising from the tubercles of the ischia.
i k k k l. i k k k l The middle glutei in which are impressed the footsteps of the largest glutei (consult Tab. V.) k k k the origin from the os ilium. l the tendon inserted into the greater trochanter.
m The great psoas.
n o p. n o p The pyriform muscles. o the origin from the os ilium, p the tendon.
q r. q r The upper of the gemini. r the tendinous extremity. s t u. s t u the lower of the gemini. t the origin from the tubercle of the ischium. u the tendinous end.
v v. v v The external obturators.
w x y. w x y The internal obturators. w the portion seated in the pelvis where the part x arises from the anterior face and margin of the great foramen of the os innominatum. y the part which goes along the back of the os ilium betwixt the gemini.
z α α. z α α The quadrati of the thighs. α α the end inserted into the thigh bone.
β γ δ δ. β γ δ δ The external vasti. γ the tendinous part. δ δ its origin from the thigh bone.
ε ε ζ ζ η θ θ. ε ε ζ ζ η θ θ The large adductors of the thighs. ζ ζ the origin from the tubercle of the ischium. η part of the tendinous beginning. θ θ part of the extremity inserted into the thigh bone.
θ ι κ λ λ μ ν ξ. θ ι κ λ λ μ ν ξ The bicipital muscles of the legs. θ ι κ the longer head. ι κ the tendon by which it begins and arises from the back of the tubercle of the ischium which joins the beginning of the semitendinosus. λ λ the shorter head. μ ν ξ the common tendon in which terminate the two heads; μ arising first from the fleshy surface of the longer head, and then being increased by joining the shorter head ν, at length terminates with a short extremity ξ in the upper head of the fibula.
ο π ρ σ ς. ο π ρ σ ς The semitendinosi. π the tendinous part of its origin, arising from the back of the tubercle of the ischium ς, it then joins the tendinous beginning of the longer head of the biceps of the leg, from which beginning it departs. σ the origin of the fleshy part which is sometimes tendinous arising from the back of the tubercle of the ischium. ς the tendon.
ς τ. ς τ The graciles. τ the tendon.
υ υ The internal vasti muscles.
φ φ χ ψ ω Γ. φ φ χ ψ ω Γ The semimembranosi. χ the origin of the tendon from the fleshy part, ψ the tendon. ω the more considerable part of the tendon inserted into the oblique rough eminence which is below the back part of the root of the upper head of the tibia, where it sustains the inner condyle of the thigh bone. Γ the thinner portion which the tendon sends off to the inner edge of the tibia.
Δ Δ The inner heads of the gemelli or gastrocnemii of the legs, Θ Θ the outer heads cut off.
Λ Δ Ε Π. Λ Δ Ε Π The poplitei. Ε the tendon by which it arises. Π the tendinous surface.
Σ Φ. Σ Φ The plantares. Φ the tendon.
Ψ Ψ Ω Ω A B B. Ψ Ψ Ω Ω A B B The solei muscles. Ω Ω Ω the tendinous surface by which the tendon of its back part begins. A the origin from the upper head of the fibula. B B a mark like a notch where is a tendinous part within the flesh, dividing the said muscular flesh like a tendinous partition.
C C The tendons of the gemelli cut off.
D E. D E The tendons of Achilles inserted into the heel bones E E.
F F The tendons of the long flexors of the toes.
G G The tendons of the tibiales postici.

In the side of the thorax, and lower part of the trunk.

In the thighs, legs, and feet.

SIXTH MUSCULAR TABLE.

- H H The long flexors of the great toes.
 I K L M. I K L M The short peronei. K the origin of the tendon from the fleshy part, L the tendon inserted into the metatarsal bone M of the little finger.
 N N O P Q R S T. N N O P Q R S T The long peronei. O the origin from the root of the upper head of the fibula. P the origin of the tendon from the fleshy part. Q R S T the tendon. R S T the knots or bendings. R that where the tendon inflects itself at the outer angle; S the second which is at the eminence of the heel bone; T the third at the cubical bone.
 U U The tendons of the long extensors of the toes.
 V V The tendons of the third peronei inserted into the metatarsal bones of the little toes.
 W W The short extensors of the toes.
 Below at X is the mass or head which joins the long flexor of the toes in the sole of the foot.
 Y Y The short flexors of the toes. the four tendons of the left are visible.
 Z. Z α β γ The short flexors of the little toes, arising from the metatarsal bones of those toes. α the part connected to the metatarsal bone of the little toe. β γ the part belonging to the first bone of that toe, γ the tendinous end.
 δ δ The tendons of the short flexors of the toes together with the tendons of the long flexors belonging to the little toes.
 ϵ ϵ The tendon of the long flexor of the great toe, passing betwixt the sesamoid bone.
 ζ The great ferratus muscle.
 η η The coracohyoidei.
 θ The subclavian muscle.
 ι κ λ The supraspinati. ι the origin from the scapula. λ the tendinous end inserted into the larger unequal protuberance of the upper head of the humerus.
 μ ν ξ π ρ σ τ υ ϕ χ ψ ω The infraspinati. μ ν ξ the origin from the basis of the scapula, ξ the origin from the spine. π the tendon where it begins first to appear. ρ σ the fleshy portions joining to that tendon. τ the upper portion from the spine; υ the lower portion from the lower angle. ϕ the tendinous end, inserted into the larger unequal protuberance σ of the upper head of the humerus.
 τ υ ϕ χ ψ ω The lesser teretes. τ the tendon inserted into the os humeri. ϕ χ the fleshy portions with the tendon inserted partly above ϕ , and in part below χ . The insertion is into the larger unequal protuberance of the upper head and lower part of the neck of the humerus.
 ψ ψ ψ ψ The larger teretes.
 ω A B B C D E F G H I K L L M N N. ω A B B C D E F G H I K L L M N N The tricipital extending muscles of the arms. ω A B B the brevis in the upper part of which is a sinus impressed by the deltoides: (see Tab. V.) A the tendinous part, B B the origin from the humerus, C D the long extensor in the upper part of which is a sinus impressed by the deltoides (see Tab. V.) D the tendinous part, E the external brachialis. F the common tendon of these three heads. G the tendinous part formed by the long extensor and joining the common tendon. H the tendinous part formed by the external brachialis which joins the common tendon. I the tendinous part which arising from the surface of the external brachialis, belongs to the greater condyle of the humerus. K the common tendon inserted into the elbow. L L the thinner horn of this tendon here cut off, which is inserted in the fore part of the olecranon and spine of the ulna next adjacent. M N N part of the external brachialis from the root of the lesser condyle, N N, and arising from the margin of the os humeri above it.
 O O The bicipital muscles of the arms.
 P P The internal brachial muscles.
 Q R S T T U The longer external brachiales. R the origin from the lesser condyle and from the margin of the humerus above it. S the part where it was conjoined with the common extensor of the fingers and internal ulnaris. T T U the tendon inserted into the metacarpal bone of the index.
 V. V W W X The shorter external radiales. W W the tendon inserted into the metacarpal bone X of the index and little finger.
 Y Z I I T The anconeus. Z the tendon arising from the lesser condyle of the humerus. I I the extremity inserted into the fore part of the elbow and margin of the ulna below that part of the elbow.
 Δ . Δ Θ The short supinators. Θ the tendinous beginning arising from the less condyle of the humerus.
 Λ . Λ Ξ Π Σ Φ Φ The long abductors of the thumbs. Ξ part of its origin. Π the part from the radius. Σ the tendon of its upper part. Φ Φ the tendon of its lower part.
 Ψ . Ψ Ω The lesser extensors of the thumbs. Ω the tendon.
 a b. a b c The larger extensors of the thumbs. b the origin from the ulna. c the tendon.
 d e The common end in which unite the tendons of the greater c and lesser extensor Ω of the thumb, inserted into the third bone of the thumb e.
 f g. f g h The indicators. g the origin from the ulna. h the tendon.
 i k k. i k k The profundus. k k the origin from the ulna.
 l m n o p q. l m n o p q The internal ulnares. m the beginning arising from the greater condyle of the humerus, and cohering with the common tendinous head of the muscles which arise from that condyle. n the beginning from the broad part of the elbow n o p; and departing from the tendinous fascia or covering of the cubit n o, and arising also from the ulna p, the tendon q is inserted into the pisiform bone of the wrist.
 r The square pronator muscle.
 s. s t u v w x y z α The sublime flexors. t the portion belonging to the middle finger; u that to the index, v that to the ring finger. w that to the little finger. x y z α the tendons, x that of the index. y that of the middle finger. z of the ring finger. α of the little finger.
 β . γ . δ . ϵ The lumbrical muscles of the fingers, β that of the index, γ that of the middle finger, δ that of the ring finger, ϵ that of the little finger.
 ζ η The small flexor of the little finger. η the origin from the interior ligament of the carpus.
 θ ι κ The abductor of the little finger, ι κ the origin, from the pisiform bone of the wrist ι , and from the inner ligament of the wrist κ .
 λ The tendon common to the small flexor and abductor of the little finger, conjoined to the tendon of the extensor of that finger.
 μ The end of the extensor tendon of the little finger, belonging to the second bone.
 ν The tendon running to the third bone, formed of the tendon λ , and joined by a portion of the extensor tendon of the little finger.
 ξ . ξ The same tendons which in the right hand are marked ϵ χ ψ . t x y.
 o. o The tendons of the profundus.
 π The ligament which with the cavity in the wrist forms a canal, wherein are confined the tendons of the sublimis, profundus, and long flexor of the thumb, passing from the fore-arm to the hand.
 ρ σ σ The opponent muscle of the thumb. ρ its origin from the inner ligament of the wrist. σ its end inserted into the metacarpal bone of the thumb.
 τ υ ϕ Part of the short flexor of the thumb, which may be reckoned as a second short abductor of the thumb. υ its origin from the inner ligament of the carpus. ϕ its tendinous end inserted into the first bone of the thumb.
 χ ψ The posterior tail of the short flexor of the thumb, inserted into the first inter-node ψ , and posterior sesamoid bone of the thumb.
 ω The adductor muscle of the thumb.
 Γ Δ The tendon of the long flexor of the thumb, in a manner split or divided. Δ its insertion into the last bone of the thumb.
 α . β . γ . δ The tendons of the extensors of the fingers as they pass over the joints, ^{In the right hand.} conjoined with the tendons and aponeuroses of the interossei, lumbrical, &c. muscles. They are cut off at the roots of the fingers, except in the index, in which that tendon only is cut off which it receives from the common extensor.
 ϵ . ϵ . ϵ ϵ the ends of those tendons inserted into the second order of bones.
 ζ η The abductor of the little finger. η the tendon.
 θ The tendon common to the abductor and small flexor of the little finger joined with the tendon α , and being increased by a portion received from thence, runs to the third bone ι of the little finger.
 ι The aponeurosis, from the capsule of the joint of this finger with its metacarpal bone, belonging to the tendon α .
 λ The tendon of the interossei of the little finger, to which is conjoined the tendon of the fourth lumbricalis.
 μ The tendon common to the interossei of the little finger and fourth lumbricalis, conjoined with the tendon α , and being increased by a portion received from thence, runs to the third bone ν .
 ξ The common tendinous end ι ν , belonging to the third bone.
 o The aponeurosis which joins the tendon α , coming in its upper part from the capsule of the joint of this finger with its metacarpus: and below it is produced by the tendon λ of the interossei of the little finger, with which tendon is conjoined the tendon of the fourth lumbricalis.
 π ρ σ The inner interossei of the ring finger. π one head of it arising from the metacarpal bone of the little finger. ρ the other head from the bone of the ring-finger. σ the tendon which afterwards joins itself at ϵ with the tendon β , and being increased by a portion received from thence, runs to the third bone ϵ .
 τ The aponeurosis which joins the tendon β , coming in its upper part from the capsule of the joint of this finger with its metacarpus; and below it is produced from the tendon of the inner interossei β , of the ring finger σ .
 υ The tendon of the outer interossei muscle of the ring finger, to which is conjoined the tendon of the third lumbricalis.
 ϕ The tendon common to the outer interossei of the ring finger and third lumbricalis, conjoined with the tendon β , and being increased by a portion received from thence, runs to the third bone χ .
 ψ The common end of the tendons ϵ . χ , belonging to the third bone.
 ω The aponeurosis which joins the tendon β , coming in its upper part from the capsule of the joint of this finger with its metacarpus: below produced from the tendon υ of the outer interossei of the ring finger, with which tendon is conjoined the tendon of the third lumbricalis.
 a b c The inner interossei of the middle finger. a one head arising from the metacarpal bone of the ring-finger: b the other head from that of the middle finger. c the tendon which afterwards joins at f with the tendon γ , and being increased by a portion received from thence, it runs to the third bone g.
 h The aponeurosis that joins the tendon γ , coming in its upper part from the capsule of the joint of this middle finger with the metacarpus: in its lower part produced from the tendon c of the inner interossei of this middle finger.
 i k k l The outer interossei of the middle finger. i i one head arising from the metacarpal bone of the middle finger: k k the other head from the bone of the index. l the tendon to which is joined the tendon of the second lumbricalis.
 m The tendon common to the outer interossei of the middle finger and second lumbricalis, conjoined with the tendon γ , and being increased by a portion received from thence, it runs to the third bone n.
 o The common end of the tendon, g n belonging to the third bone.
 p The aponeurosis which joins the tendon γ , coming in its upper part from the capsule of the joint of this finger with the metacarpus: in its lower part produced by the tendon l of the outer interossei of this middle finger with which tendon is conjoined the tendon of the second lumbricalis.
 q r The inner interossei of the index. r the tendon which afterwards joins at s with the tendon δ , and being increased by a portion received from thence, it runs to the third bone t.
 u The aponeurosis that joins the tendon δ , coming in its upper part from the capsule of the joint of this finger with the metacarpus: below it is produced from the tendon r of the inner interossei of this fore-finger.
 v The tendon of the first lumbricalis, which afterwards joins at w with the tendon δ , and being increased by a portion received from thence, it runs to the third bone x.
 y The common end in which meet the tendons t x belonging to the third bone.
 z i The aponeurosis that joins the tendon δ , produced in its upper part z from the abductor of the index: in its lower part from the first lumbricalis i.
 2 The outer interossei muscle of the index.
 3 The abductor of the index.
 4. 5 The aponeurosis which joins the common end of the extensor d of the thumb. Part of it 4 furrounds the capsule of the joint of this finger with its metacarpus, and adheres to the said capsule: the part 5 comes from the inner tail of the short flexor of the thumb.
 6 The inner tail of the short flexor of the thumb.
 7. 8 The adductor of the thumb; 8 its tendinous end inserted into the first bone of the thumb.



THE SEVENTH ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

HERE follows the third order of the muscles on the back part of the body, with some of the ligaments and naked parts of the Sceleton; for here we have removed most of the outer parts exhibited in the figure last preceding. This figure corresponds to that of the third table, and gives a back view thereof, with this difference, that, in the first place, the outer sphincter of the anus is here taken away, as being sufficiently represented before in the sixth table; and secondly, that in the right hand of this figure, contrary to that of the third table, are represented the tendon of the abductor of the little finger, and the tendon common to that abductor with the small flexor; and this was done to avoid lessening the tendinous communication stretched over the back of the little finger.

The muscles here taken off are, from the head, the temporalis, the masseter, the digastric of the lower jaw. From the neck, back and loins, the splenii of the head and neck, the elevators of the scapulae, the greater and less rhomboidals, the posterior and upper serrati, the great serrati, the lower posterior serrati, and the internal obliqui of the abdomen, together with the broad tendons by which the latissimi dorsi begin. From the parts about the nates and hips are taken the middle glutei, the pyriformes, the upper and lower gemelli, the quadrati of the thighs, coccygei, the elevators of the anus, the transversales of the perinaeum both primary and secundary, with the outer sphincter of the anus, and the testicles. From the thighs the semitendinosi, the longer heads of the bicipitals of the legs, with the external and internal vasti. From the legs are taken the plantares, and the solei with the tendons of Achilles. From the feet the tendons of the common extensors of the toes and third peronei, the short flexors of the intermediate and little toes. From the shoulder-blades the coracohyoidei, subclavius, supra-spinati, infra-spinati and less teretes. From the arms are taken the bicipitals flexors, with the long and short extensors of the cubit. From the fore-arms and hands, the anconeii, the long abductors of the thumbs with their greater and less extensors, the indicators, the outer ulnares and sublimes. From the left hand the abductor and short flexor of the little finger, part of the short flexor of the thumb (which may be reckoned as a second short abductor of it) and the opposer of the thumb. From the right hand the abductor of the little finger, the head of the inner interosseus of the ring finger, arising from the metacarpal bone of the little finger, the head of the inner interosseus of the middle finger arising from the metacarpal bone of the ring finger. The head of the outer interosseus of the middle finger arising from the metacarpal bone of the index, the abductor of the index, the aponeurosis which invests the capsule of the joint of the thumb with its metacarpal bone, fastened to the said capsule, and conjoining itself to the common end of the tendons of the extensors of the thumb.

a The buccinator muscle.
b The portion that joins the orbicularis of the mouth, arising from the lower jaw.
c The internal pterygoideus inserted into the lower jaw.
d e e Mylohyoideus. e e the origin from the lower jaw.
f g h i k l m n. f g h i k l m n The biventer of the neck. f the first belly. g the tendon betwixt the venters. h the portion arising from the uppermost vertebra of the spine, and detached partly to the middle tendon i. and in part to the second belly k. l l the second belly, inserted into the occipital bone by the tendinous end m m. n the tendinous part of the second belly.
o o. o o The spinal muscles of the neck.
p. q. r. s. t The left interspinals of the neck, close to which lie the right. p that betwixt the spines of the first and second vertebra of the neck: q between those of the second and third: r between those of the third and fourth: s between those of the fourth and fifth: t betwixt the spines of the fifth and sixth.
u v. u v The complexi muscles. v the tendinous part.
w. x The upper oblique muscles of the head. x the part inserted into the occipital bone.
y. y The lower oblique muscles of the head.
z A B. z A B The trachelomastoidei. A the tendinous part. B the tendinous end, inserted into the mastoid process.
C C. C C The transversales of the neck.
D. D The cervicales descendentes.
E. E The middle scaleni.
F G H. F G H The posterior scaleni. F its origin from the second rib. G the tail belonging to the transverse process of the third vertebra of the neck, H to the second.
I. K. L. M: I. K. L. M The elevators of the ribs. I of the second. K of the third. L of the fourth. M of the fifth.
N. O. P. Q. R. R. S. S. T. U. V. W: N. O. P. Q. R. S. S. T. U. V. W The outer intercostal muscles. N the second. O the third, &c.
X. X The twelfth of the inner intercostal muscles.
Y Z α β. Y Z α β The transverse muscles of the abdomen. Y the fleshy part, Z the broad tendon by which it arises, and adheres to the bottom of the edge of the lowermost or twelfth rib, as well the bony part α, as cartilage β, even to its tip.
γγ. γ γ The inner plates of the common aponeuroses of the lower posterior serrati, and inner oblique muscles of the abdomen; they are here cut off where they no longer adhere to the broad tendons by which the transverse muscles of the abdomen begin.
δ ε ζ η θ ι κ λ μ ν ξ ο π ρ σ ς τ υ φ χ ψ ω Γ Δ Θ Λ Ε Π Σ Φ Ψ Ω. δ ε ζ η θ ι κ λ μ ν ξ ο π ρ σ ς τ υ φ χ ψ ω Γ Δ Θ Λ Ε Π Σ Φ Ψ Ω The sacrolumbales with the longissimi muscles of the back. δ ε ζ η θ ι κ λ μ the common head by which they begin. δ the tendinous part, ε the fleshy part. ζ η θ the origin of that head from the spine or edge of the os ilium, ζ the fleshy part, η θ the

tendinous part. θ the part where it adheres to the gluteus magnus. ι κ the tendinous part arising from the two upper tubercles near the opening of the end of the canal of the os sacrum. κ κ the tendinous part discontinued one from the other, composed of the tendons arising from the spines of the two lower lumbar vertebrae and all those of the os sacrum. λ the tendon arising from the spine of the third lumbar vertebra. μ the division of this common head into the sacrolumbalis and longissimus dorsi muscles.

ν ξ ο π ρ σ ς τ υ φ χ ψ ω Γ Δ Θ Λ Ε Π. ν ξ ο π ρ σ ς τ υ φ χ ψ ω Γ Δ Θ Λ Ε Π The sacrolumbales. ν ξ, &c. the tails belonging to the ribs: ν ξ that to the eleventh rib, ο π to the tenth, ρ σ to the ninth, ς σ to the eighth, τ υ to the seventh, φ χ to the sixth, ψ ω to the fifth, Γ Δ to the fourth, Θ Λ to the third, Ε Π to the second, Π to the first: ν ο ρ σ τ φ ψ Γ Θ the fleshy parts of those tails. ζ. π. σ. ς. υ. χ. ω. Δ. Λ. Ε. Π the tendinous parts.

Σ Φ Ψ Ω. Σ Φ Ψ Ω The longissimi dorsi. Φ the tendinous part of the common head running thro' the longissimus. Ψ the tail ascending thro' the neck, where it gives a tendinous portion Ω to the trachelomastoideus, and at last joins itself to the descending cervicalis.

a b c d e g h. a b c d e g h The semispinales of the back. b the head arising from the transverse process of the sixth vertebra of the back, counting from the loins. c the tendinous end which is inserted into the spine of the second vertebra of the neck from the back; d that to the first of the neck; e that to the uppermost of the back; g to the eleventh of the back; h to the tenth.

i k l m n p q r s t u v w. i k l m n p q r s t u v w The spinales of the back. k the head arising tendinous from the spine of the third vertebra of the back, counting from the loins; l the head from that of the second; m from that of the first; n from that of the fifth vertebra of the loins; p from that of the fourth. q the extremity inserted (by the tendon which it forms) into the spine of the fifth vertebra of the back; r the end to the sixth; s to the seventh; t to the eighth; u to the ninth; v to the tenth; w to the eleventh.

Between the heads of the spinales dorsi, near the spines, and betwixt the parts of the longissimi dorsi λ κ appear the multifidi spinæ.

Between the spines of the three lower vertebrae of the back appear the interspinales of the back.

Between the spine of the lowest vertebra of the back and uppermost of the loins, appear the interspinales lumborum, as also they appear betwixt the spines of the lumbar vertebrae, and between the lower lumbar spine and uppermost of the os sacrum. The spaces are so minute that letters could not be fixed on them; but Tab. VIII. will give a better knowledge of them.

x x The multifidi of the spine.

y y The great psoæ or lumbar muscles of the thighs.

z Γ Γ Γ Δ. z Γ Γ Γ Δ The least glutei. Γ Γ Γ the origin from the back of the os ilium, Δ the tendinous part by which the tendinous end begins from the outer part of the flesh.

Θ Λ Λ Ε Π. Θ Λ Λ Ε Π The internal obturators. Θ the part seated in the pelvis, and there arising from the margin of the great foramen Λ Λ Λ of the os innominatum. Ε Π the part which goes over the back of the ischium to the femur. Π the tendon which it forms.

Σ Σ Φ. Σ Σ Φ The external obturators. Φ the tendinous end.

Ψ. Ψ The internal iliacs, by their insertions.

Ω. Ω The tendons common to the great lumbar or psoæ muscles and internal iliacs, inserted into the less trochanters.

A B C D E F G. A B C D E F G The semimembranosi. A the tendon by which it begins and arises at B from the back of the tubercle of the ischium. C the fleshy belly. D the origin of the tendinous tail from the flesh. E the principal part of the said tail belonging to the upper head of the tibia: F the posterior aponeurosis which this muscle inserts below the root of the upper head of the tibia: G the anterior aponeurosis which it inserts into the inner margin of the tibia. In its head and belly is a sinus impressed by the semitendinosus: see Tab. VI.

H I. H I The graciles. I the tendon.

K L M N O O. K L M N O O The large adductors of the thighs, in which are impressed the marks of the large glutei: see Tab. V. L the part arising from the os pubis. M its origin from the tubercle of the ischium, externally tendinous. N O O the upper end inserted into the femur O O.

P Q R S. P Q R S The shorter heads of the biceps muscles of the legs. Q part of the tendon cut off which arises from the longer head. R part of the tendon which is increased by the accession of the flesh of the shorter head. S the tendinous end inserted into the upper head of the fibula.

T. T The outer heads of the gemelli of the legs. U U the inner, cut off.

V. V The plantares muscles cut off.

SEVENTH MUSCULAR TABLE.

W X Y. W X Y The poplitei. X the tendon by which it begins. Y a tendinous part.
 Z a b c d e. Z a b c d e The tibiales postici. a the part which arises from the tibia:
 b the part from the fibula. c d the tendinous surface. e the tendon.
 f g. f g The long flexors of the toes. g the tendon.
 h i k. h i k l l The long flexors of the great toes. i the origin from the tibia. k the
 tendon. l l its course under the bottom of the foot and toe.
 m n o p q r s t. m n o p q r s t The long peronei. n one of its origins, from the
 head of the fibula. o o the other from the spine of the fibula. p q r s t the tendon,
 arising from the flesh at p: r s t the knots or turnings of the tendon, r the first
 by which it bends at the outer angle; s the second, at the protuberance in the
 outer side of the calcaneum; t the third at the cubiform bone.
 u v w x. u v w x The short peronei. v part of the tendon arising from the flesh:
 w the tendon, inserted at x into the metatarsal bone of the little toe.
 y z α β. y z α β The short extensors of the toes. z the tail belonging to the third of
 the small toes, α that to the second, β that to the first.
 γ. γ: γ. γ The tendons stretched over the backs of those toes.
 δ. δ The heads which join the long flexors of the toes in the soles of the feet.
 ε. ε The interossei muscles of the little toes.
 ζ The tendons of the long flexors of the toes, joined with the lumbricales as they
 pass along.
 η The tail of the short flexor of the great toe, which belongs to the sesamoid bone
 next the first of the small toes.
 θ θ The tendons of the long flexors to the small toes.
 ι ι The subscapular muscles.
 κ λ μ. κ λ μ The larger teretes. λ the origin from the angle of the scapula. μ the ten-
 dinous part.
 ν. ν The coracobrachiales.
 ξ ο ο ο π ρ σ. ξ ο ο ο π ρ σ The external brachiales; in which are impressed the marks
 of the long and short extensor of the cubit: see Tab. VI. ο ο ο its origin from the
 humerus, and from the root of the anterior condyle π, ρ the tendinous part.
 σ a tendinous part arising from the surface of the outer brachialis, and belonging
 to the greater condyle of the humerus.
 ς The fleshy part of the extensor longus cut off. ς part of the brevis cut off, which
 is outwardly tendinous, inwardly fleshy. τ the place from whence is cut off part
 of the common tendon of the three heads of the triceps brachialis. υ φ χ ψ the
 common tendon of the triceps brachialis, inserted into the elbow or head of the
 ulna at φ. χ the tendinous part from the longus to the common tendon: ψ the
 tendinous part formed by the brachialis externus, which joins the common tendon.
 ω A. ω A The brachialis internus, wherein is a sinus impressed by the supinator
 longus: see Tab. VI. A the origin of the outer horn from the os humeri.
 B C C D. B C C D E F The longer of the external radiales. C C its origin from the
 anterior edge and condyle of the os humeri, D the part where it is conjoined and
 has a common origin with the common extensor of the fingers and outer ulnaris.
 E the tendon inserted at F into the metacarpal bone of the index.
 G. G H I The shorter external radiales, having a sinus impressed by the common
 extensors of the fingers: see Tab. VI. H the tendon inserted at I into the meta-
 carpal bones of the index and middle finger.
 K L M N N. K L M N N The short supinators. L M part of the tendinous origin
 from the anterior condyle of the humerus at L, and connected at M with the
 capsule of the joint of the elbow. N N part of the origin from a protuberance of
 the ulna, outwardly tendinous.
 O O The long flexors of the thumbs.
 P P The square pronators.
 Q R S S. R S S T T U U V V W W The profundus flexors. S S the origin from the
 ulna. T T the tendon belonging to the little finger, U U U the tendon to the
 ring finger, V V that to the middle finger, W W that to the index.
 X X Y The tendon of the long flexor of the thumb, inserted at Y into the last bone
 of the thumb.
 Z Γ Δ Θ The ligament which with the carpal sinus forms a channel wherein are
 confined the tendons of the sublimis and profundus from the fore-arm to the
 hand, with the long flexor of the thumb. Γ the origin of this ligament from the
 pisiform bone, from the unciform process of the cuneiform bone Δ, and from
 the larger multangular bone Θ.
 Λ The ligament that goes from the pisiform bone to the fourth bone of the metacarpus.
 Ξ Π Σ The adductor of the metacarpal bone of the little finger, arising at Π from
 the carpal ligament, and inserted at Σ into the fourth metacarpal bone.
 Φ Ψ The short flexor of the thumb. Φ one tail inserted tendinous into the sesamoid
 bone of the thumb which is farthest from the index. Ψ the other tendinous end
 inserted into the first internode and sesamoid bone of the thumb nearest the index.
 Ω The adductor of the thumb.
 1. 2. 3. 4 The lumbrical muscles of the fingers; 1 that of the index, 2 that of the
 middle finger, 3 that of the ring finger, 4 that of the little finger.
 5 The tendon of the extensors of the little finger, belonging to the first bone of that
 finger at 6.
 7 The tendon common to the small flexor and abductor of the little finger, joined
 to the tendon of the extensor of that finger.
 8 The tendon running to the third bone of the little finger, formed of the tendon 7,
 joined by a portion of the extensor tendon of this finger.
 9: 10 The same tendons which in the right hand are marked w β γ. τ ψ ω.

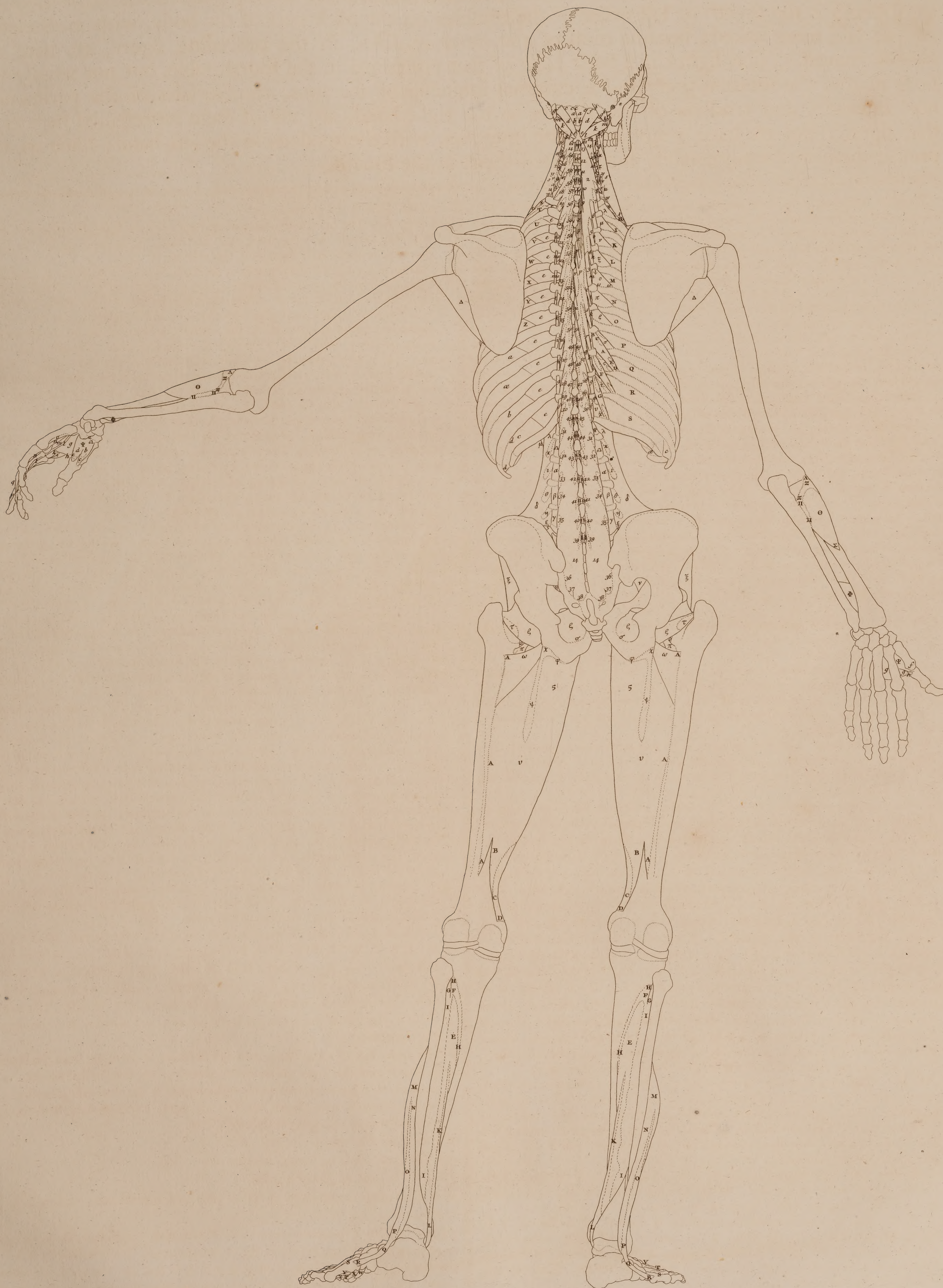
a The adductor of the fourth metacarpal bone.
 b. c. d. e The extensor tendons of the fingers cut off at their roots, passing over their
 backs, and conjoined with the tendons and aponeuroses of the interossei, lumbrical,
 &c. muscles. f. f. f. f the ends of those tendons inserted into the bones of the
 second order.
 g The part whence the abductor of the little finger is cut off. h its tendon.
 i The common tendon of the abductor and small flexor of the little finger joined
 with the tendon b, and being increased by a portion received from thence, runs
 to the third bone of the little finger, k.
 l The aponeurosis which arising from the capsule of the joint of this finger with its
 metacarpal bone, belongs to the tendon b.
 m n The interossei of the little finger, arising from the metacarpal bone at m. n its
 tendon joined with the tendon of the fourth lumbricalis.
 o The tendon common to the interossei of the little finger and fourth lumbricalis,
 conjoined with the tendon b, and being increased by a portion received from
 thence, it runs to the third bone of the little finger.
 q The common end of the tendons k. p, belonging to the third bone of the little
 finger.
 r The aponeurosis which joins the tendon b, coming in its upper part from the cap-
 sule of the joint of this finger with the metacarpus: below produced by the ten-
 don n of the interossei of the little finger, with which tendon is conjoined the
 tendon of the fourth lumbricalis.
 s The head of the inner interossei of the ring finger arising from the metacarpal
 bone of that finger. t the end of the other head, cut off arising from the meta-
 carpal bone of the little finger. u the tendon that at v joins the tendon c, and
 being increased by a portion received from thence, runs to the third bone of the
 ring finger w.
 x The aponeurosis that joins the tendon c, coming in its upper part from the cap-
 sule of the joint of this finger with the metacarpus: below produced from the
 tendon u of the inner interossei of the ring finger.
 y z The outer interossei of the ring finger, arising at y from the metacarpal bone
 of that finger. z its tendon, which joins the tendon of the third lumbricalis.
 α The tendon common to the outer interossei of the ring finger and third lumbricalis,
 joined with the tendon c, and being increased by a portion received from
 thence, runs to the third bone of the ring finger β.
 γ The common end of the tendons w β, belonging to the third bone of the ring finger.
 δ The aponeurosis that joins the tendon c, coming in its upper part from the capsule
 of the joint of this finger with the metacarpus: below produced from the tendon
 z of the outer interossei of the ring finger, with which tendon joins the tendon
 of the third lumbricalis.
 ε The head of the inner interossei of the middle finger arising from the metacarpal
 bone of that finger. ζ the end of its other head cut off, which arises from the
 metacarpal bone of the ring finger. η the tendon which soon after joins at θ with
 the tendon d, and being increased by a portion received from thence, runs to the
 third bone of the middle finger ι.
 κ The aponeurosis that joins the tendon d, coming in its upper part from the cap-
 sule of the joint of this finger with its metacarpus: below produced from the
 tendon η of the inner interossei of this middle finger.
 λ The head of the outer interossei of the middle finger, arising from the metacar-
 pal bone of that finger. μ the end of its other head cut off, that arises from the
 metacarpal bone of the index. ν the tendon that joins itself with the tendon of the
 second lumbricalis.
 ξ The tendon common to the outer interossei of the middle finger and second
 lumbricalis, which after joining the tendon d, is increased by a portion received
 from thence, and runs to the third bone of the middle finger ο.
 π The common end of the tendons ι. ο, belonging to the third bone of the middle
 finger.
 ς The aponeurosis that joins the tendon d, coming in its upper part from the capsule
 of the joint of this middle finger with its metacarpus: below produced from the
 tendon ν of the outer interossei of this middle finger, with which tendon is con-
 joined the tendon of the second lumbricalis.
 σ ς The inner interossei of the index, arising at σ from the metacarpal bone of the
 index. ς with the tendon e, and being increased by a portion received from
 thence, runs to the third bone of the index τ.
 υ The aponeurosis that joins the tendon e, coming in its upper part from the cap-
 sule of the joint of this fore-finger with the metacarpus: in its lower part pro-
 duced by the tendon ς of the inner interossei of this fore-finger.
 φ The tendon of the first lumbricalis which at χ joins with the tendon e, and being
 increased by a portion received from thence, runs to the third bone of the index ψ.
 ω The common end in which unite the tendons τ. ψ, belonging to the third bone of
 the index.
 1 The aponeurosis which being produced from the first lumbricalis joins with a like
 aponeurosis from the abductor of the index, and therewith joins the tendon e.
 2. 3 The outer interossei of the index, arising at 2 from the metacarpal bone of
 the index. 3 the tendinous end inserted into the first bone of the index.
 4. 5 The short flexor of the thumb. 5 the aponeurosis which it sends out and joins
 with the aponeurosis investing the capsule of the joint of the thumb with the meta-
 carpus, and therewith joins the common end of the extensor tendons of the thumb.
 6. 7 The adductor of the thumb, 7 the tendinous end inserted into its first bone.

In the
right
hand.

In the
shoulder,
upper ex-
tremities,
and left
hand.







THE
EIGHTH ANATOMICAL TABLE
OF THE
HUMAN MUSCLES
EXPLAINED.

THIS is the fourth or last order of the muscles on the back part of the body, with the Skeleton laid more naked; because most of the outer muscles, in the preceding figure, are here removed. This figure is a back view of that contained in the fourth table, but not wholly so; since neither the internal pterygoidei, external sphincter of the anus, transversales of the perinæum, nor interossei and tendons of the fingers in the right hand, are any of them represented here as in that figure: but we have represented the interossei, with the tendons in the left hand; since we expressed them in the third table, but omitted them in the fourth.

We have here taken away, from the head, that part of the buccinator which joins the orbicularis of the mouth, the internal pterygoideus, and mylohyoideus. From the neck, the cervical biventer, the descending cervicales, the posterior scaleni; and from the left side, the spinalis of the neck. From the back and loins, the sacrolumbales, with the longissimi dorſi and spinales dorſi: and from the left side of the spine, the semispinales dorſi; from the left side of the thorax, the shorter elevators of the ribs, except the first; the long elevators and outer intercostals. From the sides, betwixt the thorax and hips are taken the transversales of the abdomen, together with the inner plates of the aponeuroses, common to the posterior and lower serrati, with the internal obliqui of the abdomen. From the hips and nates the less glutei and internal obturators. From the thighs the graciles, femi-membranosi, bicipitals of the legs, origins of the gemelli and plantares. From the legs and feet, the poplitei, the long peronei, the long flexors of the great toes, and the long flexors of the small toes. From the feet the short extensors of the toes, the fleshy heads that join the long flexors of the toes in the soles of the feet, the interossei of the little toes, the tendons of the long flexors of the toes, with the lumbricales. From the shoulder-blades and arms, the larger teretes, the coracobrachiales, the internal brachiei, and the tricipital extensors of the arms. From the fore-arms and hands, the longer and shorter external radiales, the profund flexors, and the long flexors of the thumbs. Also from the left hand are removed the inner circular ligament, the ligament from the pisiform bone of the wrist to the fourth metacarpal bone. The adductor of the fourth metacarpal bone of the hand, the lumbricales, the tendon of the extensors of the little finger, with the tendon common to the small flexor and abductor of the little finger, joined to its extensor tendon; the tendon common to the first lumbricalis and extensors of the index, belonging to the third bone of the index. From the right hand are taken all the muscles, tendons, and aponeuroses, except the adductor and short flexor of the thumb.

a b c c. **a b c c** The less posterior recti muscles of the head. **b** the origin from the protuberance of the atlas which is instead of a spinal process, from which origin it is outwardly tendinous. **c c** the end inserted into the occipital bone.
d e f. **d e f** The larger posterior recti muscles of the head. **e** the origin from the spine of the epistropheus. **f** the end inserted into the occipital bone.
g. g h i i The upper obliqui of the head. **h** the origin from the transverse process of the epistropheus. **i i** the end inserted into the occipital bone near the appendix of the lambdoidal future.
k l m. **k l m** The lower obliqui of the head. **l** the origin from the spine of the epistropheus. **m** its extremity inserted into the transverse process of the atlas.
n. n The fifth interspinales of the neck. **o. o** the fourth. **p. p** the third. **q. q** the second. **r. r** the first.
st u v w x y z a b γ. **st u v w x y z a b γ** The middle scaleni. **t** the origin from the first rib. **u** the head that joins it from the transverse process of the first vertebra of the neck, **v** that from the second. **w. x. y. z. a. b. γ** the extremities inserted into the transverse processes of the vertebrae of the neck, viz. **w** of the first, **x** of the second, **y** of the third, **z** of the fourth. **α** of the fifth. **β** of the sixth. **γ** of the seventh.
δ The posterior intertransversales of the neck, the sixth in order. **ε** the fifth, which is also expressed on the left side. **ζ ζ** the fourth. **η** the third, which is also in the right side. **θ θ** the second. **ι** the first, which is also in the right side.
κ. κ, &c. The shorter elevators of the ribs, **κ. κ** those of the first ribs, **λ** of the second, **μ** of the third, **ν** of the fourth, **ξ** of the fifth, **ο** of the sixth, **π** of the seventh, **ε** of the eighth, **σ** of the ninth, **ς** of the tenth, **τ** of the eleventh, **υ** of the twelfth. **φ** the tendinous beginning of the twelfth. **χ** the tendinous part of the insertion, which is also represented in the eleventh, tenth, and ninth. **ψ ω ω** the parts of the sixth short elevator, **ψ** its origin from the transverse process of the eighth vertebra of the back, **ω ω** its end inserted into the rib: from whence also the origin and insertion of the rest of these muscles may be understood. These muscles are taken off from the left side, except the first of them.
A B C D E The longer elevator of the tenth rib: **B** its origin from the transverse process of the eighth vertebra of the back; **C** part of its origin which is outwardly tendinous: **D** the extremity inserted into the tenth rib, of which **E** denotes the tendinous part. This explanation belongs also to those longer elevators which follow. **F** the longer elevator of the tenth rib; **G** that of the twelfth rib. Those of the left side are removed.
H. I. K. &c. The outer intercostals, **H** the first, **I** the second, **K** the third, **L** the fourth, **M** the fifth, **N** the sixth, **O** the seventh, **P** the eighth, **Q** the ninth, **R** the tenth, **S** the eleventh. Those of the left side are taken off.
T. U. V. W. &c. Denote the internal intercostals, **T** the first, **U** the second, **V** the third, **W** the fourth, **X** the fifth, **Y** the sixth, **Z** the seventh, **a** the eighth, **æ. æ** the ninth. **b** the tenth, **c. c** the eleventh. **d d** the origin of the last from the rib next above; which holds true likewise in the first, second, third, seventh, eighth, ninth, and tenth.

e e, &c. Denote the pleura uncovered.
f. f. g. g, &c. The intertransversales of the back, **f. f** the first (reckoning upwards), **g. g** the second, **h. h** the third, **i. i** the fourth, **k. k** the fifth, **l. l** the sixth, **m. m** the seventh, **n. n** the eighth, **o. o** the ninth.
p q r s t u v w x y z i The semispinalis of the back. **q. r. s. t** four of the heads arising tendinous from the transverse process **q**, of the third vertebra of the back, counting from the loins, **r** that of the fourth, **s** of the fifth, **t** of the sixth. **u. v. w. x. y. z. i** the seven tails turning into tendons, and belonging to the spine of the eighth vertebra of the back **u**, to the ninth **v**, to the tenth **w**, to the eleventh **x**, to the twelfth **y**, to the first of the neck **z**, to the second **i**. The left is taken off.
2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13 The spinalis muscle of the neck. **3. 4. 5. 6. 7. 8** the six heads by which it arises tendinous; **3** the origin from the transverse process of the seventh vertebra of the back, from the loins, **4** from that of the eighth, **5** of the ninth, **6** of the tenth, **7** of the eleventh, **8** of the twelfth. **9. 10. 11. 12. 13** the tails inserted into the spinal process of the second vertebra of the neck **9**, counting from the back, **10** to that of the third vertebra, **11** to the fourth, **12** to the fifth, **13** to the sixth. The left spinalis muscle of the neck is here taken away.
14. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 14. 14. 15. 16. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 61. 62. The multifidi muscles of the spine. **15** the tendinous head which arises from the oblique, descending process of the fourth vertebra of the neck: **16** a like head from the third vertebra, **17** that from the second: **18** that from the transverse process of the twelfth or uppermost vertebra of the back: **19** that from the eleventh: **20** that from the tenth: **21** from the ninth: **22** from the eighth: **23** from the seventh: **24** from the sixth: **25** from the fifth: **26** from the fourth: **27** from the third: **28** from the second: **29** the tendinous excursion of the head which arises from the transverse process of the first vertebra of the back: **30** the like arising from the oblique ascending process of the fifth or uppermost vertebra of the loins: **31** that from the oblique ascending process of the fourth lumbar vertebra: **32** that from the oblique ascending process of the third lumbar vertebra: **33** that from the second: **34** that from the first: **35** that from the first of the os sacrum: **36. 37** the head which arises partly from the ligament (**36**) coming from the protuberance, which the os sacrum forms at the outer edge of its second and third opening, and continued down to the lower part of that bone; and partly from that protuberance itself **37**: **38** the head which arises all the way from the third spine of the os sacrum, to the tubercle of that bone, which is formed by the concretion of the oblique descending process of its fourth vertebra, with the oblique ascending process of the fifth, and from that tubercle itself. **39. 40. 41, &c.** the tendinous ends inserted into the spines of the vertebrae; **39** that to the first or lowermost of the loins, **40** to that of the second, **41** of the third, **42** of the fourth, **43** of the fifth, **44** of the first of the back, **45** of the second, **46** of the third, **47** of the fourth, **48** of the fifth, **49** of the sixth, **50** of the seventh, **51** of the eighth, **52** of the ninth, **53** of the tenth, **54** of the eleventh, **55** of the twelfth, **56** of the first of the neck, **57** of the second, **58** of the third, **59** of the fourth, **60** of the fifth, **61** of the sixth, and **62** into the oblique descending process of the said sixth vertebra of the neck.
Γ. Γ. Δ. Δ The interspinales muscles of the back. **Γ. Γ** the second, **Δ. Δ** the first.
Θ. Θ. Λ. Λ. Ξ. Ξ. Π. Π. Σ. Σ. Φ. Φ The interspinales of the loins. **Θ Θ** the sixth: **Λ Λ** the fifth: **Ξ Ξ** the fourth, **Π Π** the third, **Σ Σ** the second, **Φ Φ** the first.
Ψ. Ψ. Ω. Ω. α. α. β. β. γ. γ The intertransversales muscles of the loins. **Ψ Ψ** the fifth, **Ω Ω** the fourth, **α α** the third, **β β** the second, **γ γ** the first. The manner of their origin from the lower transverse process, and insertion into the upper is here apparent.
δ ε η θ ι κ λ. δ ε η θ ι κ λ The quadrati of the loins. **ε** the origin from the ligament **ζ**, that is extended from the transverse process of the first lumbar vertebra to the os ilium. **η. θ. ι. κ** tendinous portions belonging to the transverse processes of the lumbar vertebrae, **η** to the second, **θ** to the third, **ι** to the fourth, **κ** to the fifth, **λ** the extremity belonging to the twelfth rib.
μ Part of the diaphragm.
ν. ν The great psoæ, or lumbar muscles of the thighs.
ξ ο. ξ ο The internal iliacal muscles.
π. π The tendons common to the great psoæ and internal iliacs, inserted into the less trochanters.
ς ε σ τ. ς ε σ τ The external obturators. **σ** part of the origin from the inner margin of the great foramen or hole in the os innominatum. **τ** the tendinous end.
ς υ φ χ ψ ω Α Α Α Β C D. ς υ φ χ ψ ω Α Α Α Β C D The great adductors of the thighs, in the upper part of which, near the inner side, are impressed the marks

EIGHTH MUSCULAR TABLE.

of the largest glutei, see Tab. V: and of the semitendinosi, see Tab. VI. ψ all that part which is concave from the impression of the semimembranosus. ϕ χ the origin from the back of the tubercle of the ischium by the tendinous part ϕ , χ the tendon which runs thro' the muscular flesh ψ . ω the part that comes from the fore side of the pelvis, where it arises along the whole height of the os pubis. A A A the broad end inserted into the thigh bone. B C D the lower end, which forming the tendon C, is inserted into the inner condyle of the thigh bone at D. E F G H I I K L. E F G H I I K L The tibiales postici. E the origin springing from the tibia, G the origin from the fibula. H H its origination from the tibia, from whence it comes outwardly tendinous. I I the part that arises outwardly tendinous from the fibula. K L the tendon, arising from the fleshy part at K, and passing behind the inner ancle at L. M N O P Q R. M N O P Q R The short peronei. N the origin from the fibula. O P Q R the tendon, arising from the fleshy part at O, becoming thicker and broader at P, where it bends round the outer ancle, and at Q passes thro' the second ligament near the upper part of the protuberance of the calcaneum; it is inserted into the fifth metatarsal bone at R. S. S The heads of the second interossei of the little toes, which arise from the metatarsal bones of those toes. T The head of the second interossei of the third toe, which arises from the metatarsal bone of that toe. V The head of the second interossei of the second toe, arising from the metatarsal bone of that toe. W X The two tails of the short flexor of the great toe, inserted into the sesamoidal bones. Y The second interossei of the fourth toe. Z The transversalis of the foot. I The adductor of the great toe. Δ . Δ The subscapulares. Θ Λ Ξ Π Π . Θ Λ Ξ Π Π Σ The short supinators. Λ the tendon arising from the

less condyle. Ξ Π Π the part which is outwardly tendinous arising from the capsule of the joint of the elbow at Ξ Ξ , and from the ulna at Π Π . Σ the end inserted into the radius. Φ Φ The square pronators. Ψ Ω a b c d e. Ψ f The short flexors of the thumbs. Ω the origin from the inner protuberance of the larger multangular bone, and from the less multangular bone at a. b the anterior or outer tail, inserted by the tendinous end c, into the sesamoidal bone of the thumb, which is farthest from the index. d the posterior or inner tail, inserted by the tendinous end e, into the sesamoidal bone of the thumb, which is nearest the index, and likewise into the first bone of the thumb itself. f the aponeurosis which goes from the posterior tail and joins itself to the common end of the tendons of the extensors of the thumb. g g h. g h The adductors of the thumbs. h the tendinous end inserted into the first bone of the thumb. i The posterior or inner interossei of the index. Near k appears the outer interossei of the middle finger. l l The posterior or inner interossei of the middle finger. m The outer interossei of the ring finger. n n The inner interossei of the ring finger. o The interossei of the little finger. p The tendon of the inner interossei of the index, which being increased by a portion received from the tendon of the extensor of the index, runs to the third bone of the index, joining in its common end with the tendon of the first lumbricalis, and is increased likewise by a portion from the extensors of the index. q The tendon common to the outer interossei of the ring finger and third lumbricalis, which being increased by a portion received from the tendon of the common extensor, that belongs to this finger, runs to the third bone of this said finger. r The tendon of the inner interossei of the ring finger, which being increased by a portion from the common extensor to this finger, runs to the third bone of the said ring finger, and joins the tendon q in the common extremity.

In the
shoulders,
arms, and
hands.







THE
NINTH ANATOMICAL TABLE
OF THE
HUMAN MUSCLES
EXPLAINED.

AS in the first Table, so in this, we exhibit the primary or outermost order of the muscles, after the common integuments and tendinous coverings have been removed; to these we have added some of the ligaments belonging to those muscles, and some parts of the third Skeleton, which makes the basis of the present figure; with some other parts which are not covered with muscles, as of the nose, ear, and genitals.

a b c. a b c d. e. f The epicranius. a b the occipitalis. a its tendinous beginning. b the fleshy part. c d the aponeurosis betwixt the occipital and frontal muscles; thro' which at d the temporal muscle appears protuberant, e the membranous part by which the occipital muscles and their aponeuroses are joined to each other; arising above the origin of the cucullares from the occipital bone. f the frontalis.

g h The elevator of the outer ear. g the tendinous beginning, by which it goes off from the epicranius. h the fleshy part.

i The anterior muscle of the outer ear.

k. l. m The three retractive muscles of the outer ear.

n The greater muscle of the helix.

o The less muscle of the helix.

p Tragicus.

q Antitragicus.

r s t t The orbicularis of the eyelids. r the part which furrounds the edge of the orbit of the eye. s a part which comes from the corrugator of the eyebrows. t t the part which is spread over the eyelids.

u The compressor of the nose.

v The nasalis of the upper lip.

w x w x The orbicularis of the mouth. x the part which is in the red margin of the lip.

y z The greater zygomaticus. z its origin from the os jugale.

α β The depressor of the corner of the mouth, β its origin from the lower jaw.

γ The buccinator muscle.

δ ε ζ η θ The masseter. δ ε the anterior and outer part; ε its origin from the os jugale, from whence outwardly it is for a good way tendinous. ζ η θ the back part which is not covered by the former; η θ its origin from the os jugale at η, and from the jugal process of the temporal bone at θ.

ι κ The internal pterygoideus inserted into the mandible at κ.

λ The Stylohyoideus.

Betwixt κ and λ is the styloglossus. see Tab. X. Fig. 2. m.

Immediately below the styloglossus is the basiglossus. see Tab. X. Fig. 1. k. and Fig. 2. o.

μ ν ξ ο π The latissimus colli or quadratus genæ. ν. ν. &c. the muscular portions which join it on the sides of the neck in some people. ξ the dispersed fibres by which it ends and disappears in the upper part of the cheek. ο the fasciculus or portion which is stretched thro' the fore part of the depressor of the angle of the mouth, towards the said angle. π the lower jaw protuberant under the platysma-myoides or square muscle of the neck and cheek.

σ σ The sternomastoideus and cleidomastoideus joined together in one. σ the tendinous end.

τ The biventer of the neck, inserted by its tendinous end into the occipital bone.

υ The splenius of the head.

φ The splenius of the neck.

χ The middle scalenus.

ψ The elevator of the scapula.

ω Γ Δ. ω Γ Θ Λ Α Ξ The cucullares. Γ Δ the tendinous origin. Γ part of it arising from the occipital bone. Θ the broadest part of its tendinous origin about the bottom of the neck and top of the back. Λ Α the tendinous part of its end which is inserted into the spine and upper process of the scapula, and into the next adjacent part of the clavicle. Ξ the tendinous part of its end, by which it is inserted into the spine of the scapula not far from its basis.

Π Σ. Π The infraspinati. Σ the origin from the basis of the scapula.

Φ Teres minor.

Ψ Teres major.

Ω. Ω A B C D E F The latissimi dorsi or broadest muscles of the back. Ω the fleshy part. A the broad tendon by which it begins. B its adhesion to the gluteus magnus. C its origin from the spine of the os ilium. D. E. F the heads which arise from the ribs: D that from the eleventh rib, E that from the tenth, F from the ninth.

G The upper ferratus anticus.

H I The pectoralis. I the portion which joins it from the aponeuroses of the external oblique muscle of the abdomen.

K L M N O P Q R &c. The lower or great ferratus. K the head which arises from the third rib; L that from the fourth, M from the fifth, N from the sixth, O from the seventh, P from the eighth. R R, &c. the origin of the heads themselves from the ribs.

S T U V W X Y Z a a a a b b b b b b c c d d d d e f f g h h h h i i i k The external obliquus of the abdomen. S the fleshy part. T U V W X Y Z the serrated heads, of which T arises from the fifth rib, U from the sixth, V from the seventh, W from the eighth, X from the ninth, Y from the tenth, Z from the eleventh. a, &c. the tendinous part of each head at the origin. b b, &c. the origin of the heads themselves from the ribs. c c the insertion of the fleshy part into the spine of the ilium. d d d e f f g h h h h i i i k the aponeurosis or tendinous part, inserted into the spine of the ilium at e, at f f the flesh of the internal obliquus appears protuberant under it, under the same tendon, and that of the internal obliquus at g, the flesh of the transversalis appears protuberant;

and at h h h h the flesh of the rectus: at i i i appear the tendinous lines of the rectus thro' the said aponeuroses and at k, under the same appears the pyramidalis.

l The cremaster muscle of the testicle.

m The long adductor of the thigh.

n The pectineus.

o The great psoas or lumbal muscle of the left thigh.

p The sartorius.

q r s The extensor of the tendinous covering of the thigh. r its origin from the spine of the ilium. s its extremity from whence the tendinous part is cut off by which it joins the aponeurosis or vagina of the thigh.

t u u v The middle gluteus, u u its origin from the os ilium. v the tendon.

w x y The gluteus magnus, arising at x from the spine of the ilium, and cohering with the latissimus dorsi. y the tendon.

z The feminovosus or femitendinosus.

α β γ δ ε ζ The biceps muscle of the leg. α its longer head. β β its shorter head. γ δ ε ζ the tendon, arising first at γ from the flesh of the longer head, afterwards increased by the joining of the shorter head δ, and inserted by its principal end ε, into the upper head of the fibula, but sends off the small portion ζ, which belongs to the tibia.

η θ ι κ The external vastus. θ the tendinous surface. ι the tendon, inserted into the patella at κ.

λ μ ν ξ ο The rectus of the leg. μ the tendinous part of its beginning. ν the tendon, inserted at ξ into the patella. ο the aponeurosis which runs from the tendon of the rectus over the fore part of the patella, and afterwards joins itself to the fore part of the ligament, which belongs to the tibia from the patella.

π ς The internal vastus. ς the tendon.

σ τ υ The ligament belonging to the tibia from the patella. τ the part where it arises from the patella. υ that whole part which is inserted behind the tibia.

φ χ ψ The outer head of the gemellus or gastrocnemius. χ the tendinous surface. ψ the tendon.

ω Γ Δ The soleus. Γ its origin from the upper head of the fibula. Δ the tendinous surface.

Θ Λ Ξ The tendon of Achillis. Λ the inner part. Ξ its insertion into the calcaneum.

Π The tendon of the plantaris.

Σ Φ Ψ Ω Ω Ω The long peroneus. Φ its origin from the head of the fibula. Ψ Ω Ω Ω the tendon arising from the flesh at Ψ.

A The ligament proper to the long peroneus.

B B C C D D E The short peroneus. C C the origin of the tendon from the flesh. D D the tendon, inserted at E into the fifth bone of the metatarsus.

F The ligament proper to the short peroneus.

G H I K L M N O P Q R The long extensor of the toes with the third peroneus. G the common flesh of the extensor and peroneus. H its origin from the tibia. I the third peroneus. K L M its tendon, arising from the flesh at K, and inserted at M into the metatarsal bone of the little toe. N the tendon of the long extensor of the toes, which splits itself into four tendons O. P. Q. R running over the back or instep of the foot.

S S S T The tendon of the proper extensor of the great toe, inserted at T into the last bone of the great toe.

U V W W The tibialis anticus. V its origin from the tibia. W W its tendon.

X Y Z The ligament by which the tendons are covered and confined at the bottom of the leg, and upon the back of the foot. Y its upper horn. Z the lower horn.

a a a b c d e The short extensor of the toes. b. c. d. e its tendons. b that belonging to the great toe, c that to the first of the small toes, d that to the second. e to the third.

f g h i k l Denote a tendon common to the long and short extensor of the toes, f the part produced from the longus, g the part from the brevis: and betwixt them is a mark of division. h the end inserted into the bone of the second phalanx or order. i part of the common tendon running to the third bone. k the tendon running from one side to the third bone, which comes from the tendon of the short extensor. l the common end of the two portions belonging to the third bone into which it is inserted.

m The aponeurosis which comes from this side to the tendon of the short extensor of the toes. The like is also in the other toes: but in the little toe it joins the tendon of the long extensor: in the great toe it joins the tendon of its proper extensor.

n The first interosseus of the second toe.

o The thicker head of the second interosseus of the second toe.

p The larger head of the second interosseus of the third toe.

q The larger head of the second interosseus of the fourth toe.

r s t u v The abductor of the little toe in the part s, covered with an aponeurosis. t its origin from the calcaneum. u part of the aponeurosis by which it is covered, inserted into the metatarsal bone of the little toe. v the tendon of the abductor inserted into the first bone of the little toe.

w x The short flexor of the little toe. w the part which is inserted into the metatarsal bone of the little toe. x the part which by its tendinous end is inserted into the first bone of the little toe.

y. z The tendons of the long and short flexor of the toes. Which are also to be seen in the next toe.

In the
left lower
extremity.

NINTH MUSCULAR TABLE.

In the
right
lower ex-
tremity.

A B C The rectus muscle of the leg. B its tendon inserted into the patella. C the aponeurosis running from the tendon before the patella, and joining itself to the fore part of the ligament that belongs to the tibia from the patella.
D E F G The ligament belonging to the tibia from the patella. E the part where it arises from below the patella, and inserted into the tibia all below the part F. G its inner part.
H I The internal vastus. I its tendinous end inserted into the side of the patella.
K L M The sartorius. L its tendon, inserted into the tibia at M.
N O The gracilis. O its tendon.
P Q R S The semimembranosus. Q R the tendon, arising from the flesh at Q. S its anterior aponeurosis inserted into the inner margin of the tibia.
T U The semitendinosus. U the tendon.
V W X The inner head of the gemellus or gastrocnemius. W the tendinous surface. X the tendon which joins the outer part of the tendon of the soleus. Y the tendon of Achillis, inserted into the calcaneum at Z.
Γ Δ Θ ⊙ The soleus. Δ the tendinous surface. ⊙ its origin from the tibia.
Λ Ξ The tendon of the plantaris, inserted into the calcaneum at Ξ.
Π Σ The long flexor of the great toe. Σ the tendon.
Φ The ligament which retains the tendon of the long flexor of the great toe.
Ψ Ω α The long flexor of the toes. Ω its origin from the tibia. α the tendon arising from its flesh.
β β γ The tendon of the tibialis posticus. γ its end inserted into the inner tubercle of the navicular bone.
δ ε ε The ligament that covers the tendon of the long flexor of the toes, and of the tibialis posticus, fastened to the inner ankle at ε ε.
ζ The ligament which retains the tendon of the tibialis posticus.
η θ θ θ The tibialis anticus. θ θ θ the tendon.
ι The upper horn of the ligament fix'd to the tibia, by which are confined the tendons at the bottom of the leg, and on the back of the foot. κ the lower horn of the same ligament.
λ μ μ The tendon of the extensor proper to the great toe, inserted at μ into the last bone of the great toe.
ν A branch of the tendon of the proper extensor of the great toe, inserted into the first bone of that toe, found in some bodies.
ξ An aponeurosis joining the tendon of the proper extensor of the great toe.
ο The common tendons of the extensors upon these toes.
π π The two horns of the ligament by which the tendon of the long flexor of the great toe is confined in this place.
ρ The tendon of the long flexor of the great toe running under that toe.
σ σ σ τ The abductor of the great toe. σ its origin from the calcaneum. σ the tendon, inserted at τ into the first bone of the great toe.
υ υ φ The short flexor of the great toe, adjoining itself to the tendon of the abductor at φ.
χ ψ The short flexor of the toes. ψ its origin from the calcaneum.
ω The fleshy head that joins the long flexor of the toes in the sole of the foot, arising from the calcaneum.
A B B C D E F G H I K L M N O The deltoides. A B B the second and posterior of the first order of portions which make up this muscle, arising at B B from the spine and upper process of the scapula. C D the posterior portion of the second order, arising at D from the upper process. E F the fourth portion of the first order arising at F from the hollow and arch of the upper process. G H the middle portion of the second order arising at H from the upper process. I K the third portion of the first order arising at K from the upper process. L M the anterior portion of the second order, arising at M from the upper process. N O the first anterior portion of the first order; O its origin from the upper process.
P Q R The biceps. Q the tendon. R the aponeurosis cut off.
S The internal brachialis.
T U V W X The triceps extensor of the cubit. T that part of it called the longus. U the brevis. V the tendon, inserted at W into the elbow. X the thinner point of the tendon inserted into the fore part of the elbow and next adjacent spine of the ulna.
Y The internal ulnaris.
Z a The supinator longus. a the tendon.
b The pronator teres.
c d The radialis internus. d the tendon.
e e The sublimis flexor of the fingers.
f f The long flexor of the thumb.
g The tendon of the second longer radialis externus.
h i i i k The longer radialis externus. i i i k the tendon, inserted at k into the metacarpal bone of the index.
l m m m The shorter radialis externus. m m m the tendon.
n o The ulnaris externus. o the tendon.
p q r s t The common extensor of the fingers. q the tendon belonging to the index. r the tendon to the middle finger: which two tendons near the fingers are conjoined by the portion s, coming from the tendon of the middle finger to the tendon of the index. t the tendon belonging to the ring finger.
u The indicator tendon.
x, w The extensor proper to the little finger. w the tendon.
x y y z z The long abductor of the thumb. y y the tendon of its upper portion, which is split at the end, of which one part belongs to the short abductor of the

In the left
arm and
hand.

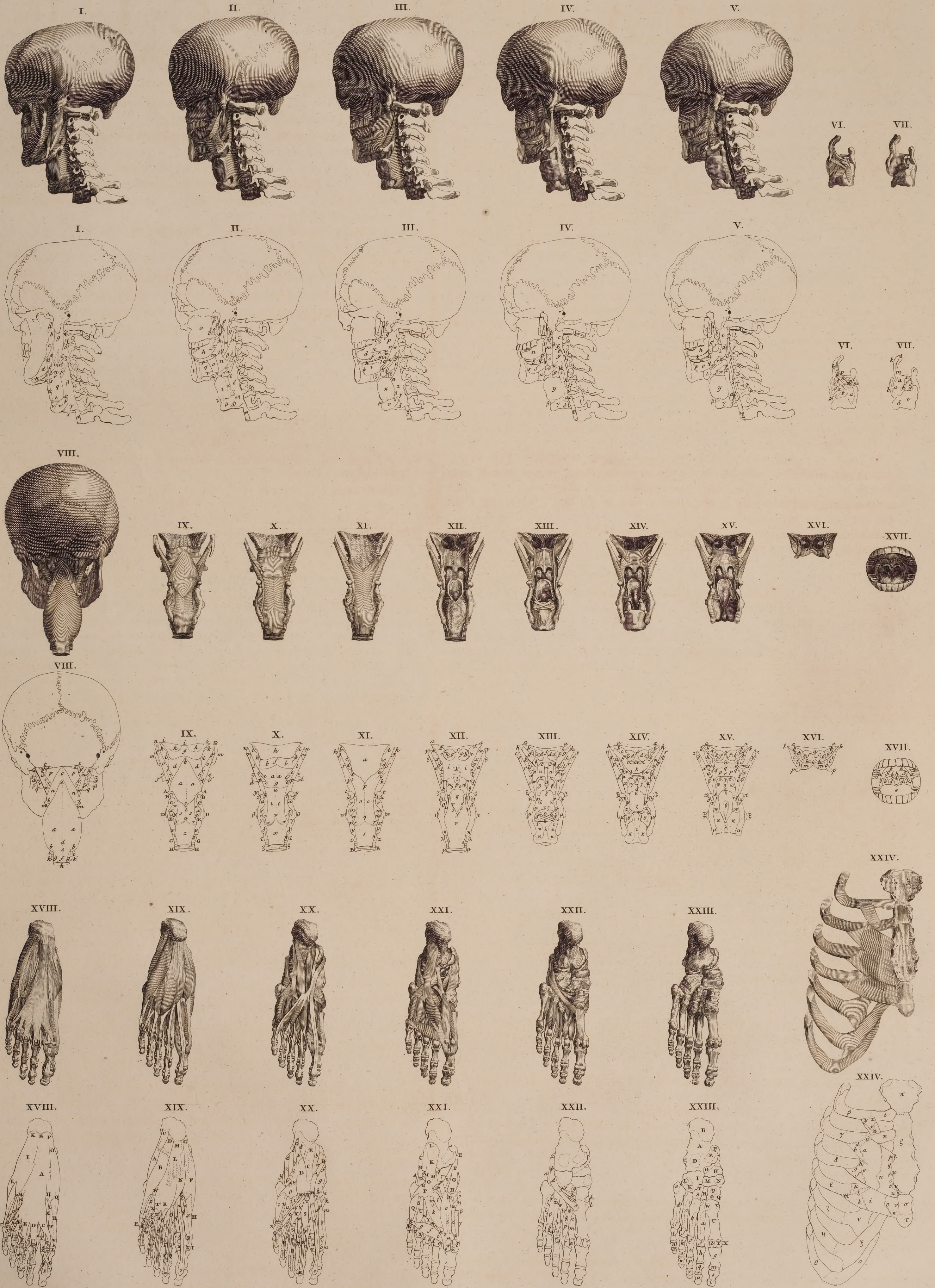
thumb, the other to the metacarpal bone of the thumb. z z the tendon of its lower portion.
α β The less extensor of the thumb. β the tendon.
γγ The tendon of the larger extensor of the thumb.
δ ε The tendon common to the larger and less extensor of the thumb, belonging to the last bone of the thumb ε.
ζ ζ The outer circular ligament of the wrist.
η The ligament by which are confined the tendons of the long abductor and less extensor of the thumb.
θ The inner ligament of the wrist.
ι κ The short abductor of the thumb. κ the aponeurosis which it joins to the common tendon of the extensors of the thumb.
λ The opponent muscle of the thumb, inserted into the outer edge of the metacarpal bone of the thumb.
μ The aponeurosis which joins the tendon of the larger extensor of the thumb, arising partly from the capsule of the joint of the thumb with its metacarpal bone, and in part from the short flexor of the thumb.
ν ξ The adductor of the thumb, inserted by its tendinous end ξ into the first bone of the thumb.
ο The outer interosseus muscle of the index, arising from its metacarpal bone.
π The abductor of the index.
ρ The first lumbricalis.
σ The aponeurosis which proceeds partly from the abductor of the index, and in part from its lumbricalis, and joins the tendon of the extensors of the index.
ς ς The tendon common to the extensors of the index. ς its end inserted into the second bone of the index.
τ The tendon of the first lumbricalis, which being increased by a portion received from the common tendon of the extensors, runs to the third bone of the index υ.
φ The tendon of the second interosseus of the index, together with a portion which it receives from the common tendon of the extensors, running to the third bone of the index.
χ The common end of the tendons υ and φ belonging to the third bone of the index, into which it is inserted.
ψ The tendon common to the second lumbricalis and outer interosseus of the middle finger: which tendon being increased by a portion received from the extensor tendon of the middle finger, runs to the third bone of that finger, joining in its common end with a like tendon from the other finger of this side, and is inserted into the third bone of the said finger.
ω The tendon common to the fourth lumbricalis with the outer interosseus of the little finger: which tendon being increased by a portion received from the extensor tendon of this finger, runs to its third bone.
Along the fingers within the hand run the tendons of the sublimis and profundus flexors, which tendons are retained or tied down by their ligaments, as may be better seen in Tab. I.
α β γ δ ε The triceps extensor of the cubit or fore-arm. α the part call'd extensor longus. β the part call'd brachialis externus. γ the tendon of the triceps, inserted into the olecranon or elbow. ε the thin tendon arising from the surface of the external brachialis, and belonging to the upper part of the posterior or larger condyle of the humerus.
ζ The brachialis internus.
η θ The biceps flexor of the fore-arm. θ its aponeurosis cut off. Near ι appears the tendon.
κ The supinator longus.
λ The pronator teres.
μ The radialis internus.
ν ξ The long palmaris. Immediately below ξ appears the beginning of its tendon.
ο The sublimis perforatus flexor of the fingers.
π ρ σ The ulnaris internus. ρ one of its origins from the posterior condyle of the humerus. σ its other origin from the elbow.
τ The ulnaris externus.
a The short abductor of the thumb. b the aponeurosis which going off from its tendon joins itself to the common tendon of the extensors of the thumb.
c Part of the short flexor of the thumb, which may be reckoned as a second short abductor of it, inserted by its tendinous end into the first bone of the thumb.
d Part of the short flexor of the thumb, inserted into the sesamoidal bone nearest the index, and into the next part of the first bone of the thumb.
e The abductor of the thumb.
f f The tendon of the long flexor of the thumb.
g Two ligaments which confine the tendon of the long flexor of the thumb, marked μ in the left hand of Tab. V.
h The palmaris brevis quadratus.
i The short flexor of the little finger.
k The abductor of the little finger.
l The abductor of the fourth metacarpal bone of the hand, inserted into that bone.
Finally, we have omitted to fix letters on the tendons and aponeuroses stretched over the back of the hand and fingers, because they may be more easily known from the fifth table.

In the
right arm.

In the
right
hand.







THE TENTH ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

FIGURE I.

FIGURE I. COMES next after that of the head and neck in the ninth table; and represents the muscles seated before the vertebræ of the neck, below the head, with the os hyoides, larynx and part of the pharynx; to shew which the latissimus colli and mastoideus are here taken off. No other muscles are here figured either in the head or vertebræ; not even those which adhere to the fore part of the vertebræ behind the pharynx, as the rectus internus major capitis, and longus colli, left by these, the other muscles should be obscured.

- a The pterygoideus externus.
- b c Pterygoideus internus, c its insertion into the lower jaw.
- d The mylohyoideus, the end of which, inserted into the basis of the os hyoides, appears immediately below the tendon of the digastric, i of the lower jaw.
- e f The stylohyoideus inserted by its tendon f into the basis of the os hyoides.
- g h i i The digastric of the lower jaw. g the first venter, h its second venter, i i the middle tendon.
- k l The basioglossus. l part of its origin from the horn of the os hyoides: and immediately above k appears part of the styloglossus, as in Fig. 2. m.
- m The ceratoglossus arising from the horn of the os hyoides.
- n o The os hyoides. n the horn, o its basis.
- p The common end of the stylopharyngeus and palatopharyngeus. Part of the end of which also lies betwixt the ceratoglossus and heads of the middle constrictor of the pharynx: for which consult the Figures following.
- Near p is a ligament belonging to the upper process of the thyroide cartilage from the horn of the hyoid bone. See Fig. 4. x.
- q r s t The hyothyroideus. r s its origin, from the horn r of the hyoid bone, and from its basis s. t its thyroidal insertion.
- u The thyroide cartilage.
- v w x y The cricothyroideus. v its fore part inserted into the thyroide cartilage. w x y its back part, of which a portion at x joins the lower constrictor of the pharynx. y its thyroidal insertion.
- z The cricoide cartilage.
- α The gula cut off.
- β γ The lower constrictor of the pharynx. γ its origin from the cricoide cartilage.
- δ ε ζ The middle constrictor of the pharynx. ε the head which arises from the graniform bone of the os hyoides. ζ the head which arises from the end of the horn of the os hyoides.
- η The upper constrictor of the pharynx.

FIGURE II.

In which the outer muscles of the first figure and left side of the lower jaw are taken off, represents the next order of muscles, with the os hyoides, larynx, gula and tongue. But with the left side of the lower jaw are removed the pterygoideus externus and internus, the mylohyoideus, stylohyoideus, biventer maxillæ, hyothyroideus and cricothyroideus.

- a The upper jaw-bone.
- b The outer wing of the pterygoid process.
- c d Part of the palate bone, which being inserted betwixt the pterygoid process and upper jaw, connects them together. c part of it belonging to the cavity of the pterygoid process.
- e e The inner wing of the pterygoid process, in whose bottom is the hamulus or hooked process.
- f The circumflex muscle of the moveable palate.
- g The elevator of the moving palate.
- h The tongue.
- Near i is the constrictor of the isthmus of the fauces. See Fig. 4. l.
- k l m The styloglossus. l its continuation to the ceratoglossus. m its course from thence as it runs in the direction of the tongue, and is inserted into it.
- n The ceratoglossus arising from the horn of the os hyoides.
- o The basioglossus, whose origin appears from the horn of the os hyoides.
- p The lingualis.
- q The genioglossus arising from the lower jaw.
- r s Geniohyoideus. s its tendinous origin from the lower jaw. The rest of it is inserted into the basis and horn of the os hyoides: also part of its end runs behind the basioglossus.
- t The lower jaw cut in two.
- u v The os hyoides. u the basis. v the horn.
- Near the lower part of the end of the horn of the os hyoides is part of the ligament which goes from thence to the upper process of the thyroide cartilage. See Fig. 4. x.
- w The stylopharyngeus.
- x The common end of the stylopharyngeus and palatopharyngeus, the extremity of which appears betwixt the ceratoglossus and two heads of the middle constrictor of the pharynx. See Fig. 4. g.
- yyz The upper constrictor of the pharynx. z a portion of it which arises partly from the lower jaw, and is in part continued to the buccinator; from both which it is cut off.
- α β γ The middle constrictor of the pharynx. β the head which arises from the

- little grain-like bone of the os hyoides. γ the head which arises from the end of the horn of the os hyoides.
- δ ε ζ η θ The lower constrictor of the pharynx. ε ζ η the head by which it arises from the thyroide cartilage, from ε to ζ, springing from the side of the said cartilage, the part ζ from the lower edge thereof, and the part η from the lower process. θ the head by which it arises from the annular cartilage.
- ι x The thyroide cartilage. x the protuberance from whence arises the middle constrictor of the pharynx.
- λ A ligament tying the annular to the thyroide cartilage.
- μ The annular cartilage.
- ν The gula cut off.

FIGURE III.

Represents the next order of muscles after those which lie outermost in the preceding figure are taken off; namely, the styloglossus, ceratoglossus, basioglossus, geniohyoideus, and stylopharyngeus.

The upper jaw-bone, with the processus pterygoideus, its wings, hook, and excavations, as also the palate-bone with the lower jaw divided, have neither of them any letters affixed in the present, or two next succeeding figures; because these may be known from the second figure, and therefore there is no reason for loading these last figures like the former.

- a The circumflex muscle of the moveable palate.
- b The elevator of the soft or moveable palate.
- Near c is part of the constrictor of the isthmus of the fauces. See Fig. 4. l.
- d The tongue.
- e f The styloglossus, cut off at e, but in the part f, running according to the length of the tongue, and cohering with it.
- g The ceratoglossus and basioglossus cut off.
- h The lingualis.
- i k l m n o The genioglossus. k its origin from the lower jaw. At l the thin fasciculi of fibres are incurvated by the side of the pharynx; some of which fibres at m join the ceratoglossus and styloglossus; others at n join the upper constrictor of the pharynx, while others at o vanish in the membrane of the pharynx.
- p q r s t u The upper constrictor of the pharynx. q the upper part which goes out of the circumflex muscle of the moveable palate. r the part which arises from the internal plate of the pterygoide process; and from the hook. s the part which is cut off from the buccinator. t the part which arises from the lower jaw. u the part going from the tongue: below which the part n joins it from the fibres of the genioglossus, which it incurvates thro' the side of the pharynx.
- v Denotes a space betwixt the upper and middle constrictor, through which the stylopharyngeus is detached, passing under the middle constrictor.
- w x y The middle constrictor of the pharynx. x one of the heads arising from the small grain-like bone of the os hyoides: y the other head arising from the end of the horn of the os hyoides.
- z α β γ δ The lower constrictor of the pharynx. α β γ the head which arises from the thyroide cartilage: α and β denote its origin from the side of the thyroide cartilage, β from the lower edge of the said cartilage, and γ from the lower process. δ the head arising from the annular cartilage.
- ε The common end of the stylopharyngeus and palatopharyngeus: part of which also appears betwixt the heads of the middle constrictor of the pharynx x. y: see Fig. 4. g.
- ζ η θ The os hyoides. ζ the basis. η the grain-like little bone, θ the horn.

A little above η is a small part of the chondroglossus muscle. See Fig. 4. t.
A little below ι is a ligament which belongs to the upper process of the thyroide cartilage from the end of the horn of the os hyoides. See Fig. 4. x.

- x The thyroide cartilage, whose lower process is near λ. See α.
- λ The ligament by which the thyroide and cricoide cartilage are tied one to the other.
- ν The cricoide cartilage.
- ξ The gula cut off.

FIGURE IV.

The outermost muscles of the third figure being removed, we here exhibit the next order, together with the tongue, os hyoides, larynx, pharynx, or beginning of the gula, also one of the tonsils, and the membrane of the fauces laid bare all together. But we have here added the beginning of the stylopharyngeus, that this muscle might appear entire. In this figure are removed part of the genioglossus that is incurvated by the side of the pharynx; also the upper, middle and lower constrictor of the pharynx.

- a The circumflex muscle of the moveable palate.
- b The elevator of the palate.
- c c c The membrane of the pharynx naked.
- d e The stylopharyngeus. e that part of it which joins itself to the upper part of the palatopharyngeus. i Fig. 2.
- f f The palatopharyngeus.
- g g h i k The common end of the stylopharyngeus and palatopharyngeus. h part of it which is inserted into the external side of the edge of the thyroide cartilage, at the root of the upper process. i k another part, which at i is inserted into the remaining edge, and at k disappearing below in the membrane of the pharynx.
- l The constrictor of the isthmus of the fauces.

TENTH MUSCULAR TABLE.

- m The tonsill.
 n The tongue.
 o p The styloglossus where it joins the tongue, cut off at p. See Fig. 2. k m.
 q The basioglossus and ceratoglossus cut off.
 r The lingualis.
 f s The genioglossus. s its origin from the lower jaw. The contexture of fibres, incurvated by the side of the pharynx, is here removed, 1 Fig. 3.
 t The chondroglossus arising from the grain-like bone of the os hyoides.
 u v w The os hyoides. u the basis, above v appears the small grain-like bone. w the horn.
 x The ligament which belongs to the upper process of the thyroide cartilage from the end of the horn of the os hyoides.
 y z α The thyroide cartilage. z its upper process, α its lower process.
 β The ligament by which the scutiform and annular cartilage are fastened together in this place.
 γ The annular cartilage.
 Near δ is the posterior cricoarytænoideus muscle. See a Fig. 6.
 ε The gula cut off.

FIGURE V.

In this figure are taken away not only some of the outer muscles of the fourth figure, but also the pharynx is slit longitudinally, laid open, and the left part of it cut off, that not only the cavity thereof, but also the moveable palate with the root of the tongue and epiglottis might appear. The muscles taken off are the stylopharyngeus and palatopharyngeus, with its common extremity and the chondroglossus.

- a The circumflex muscle of the moveable or soft palate.
 b The elevator of the palate.
 c The moveable palate. d the uvula. e the edge of the soft palate cut off.
 f The tonsill.
 g The constrictor of the isthmus of the fauces.
 h i The tongue. h the part which is contained in the mouth: i the part where it is incurvated within the fauces towards the basis of the tongue and os hyoides.
 k l The styloglossus muscle cut off at l.
 m The basioglossus and ceratoglossus cut off.
 n The lingualis.
 o p q The genioglossus. p its origin from the lower jaw. q the part which belongs to the tongue.
 r r s The epiglottis. r r the convex part, s the concave part.
 t u v The os hyoides. t the basis. u the horn. v the small grain-like bone.
 w The inner membrane of the larynx.
 x The ligament belonging to the upper process of the thyroide cartilage from the end of the horn of the os hyoides.
 y z α The thyroide cartilage. x the upper process, α the lower process.
 β The ligament by which the scutiform and annular cartilage are tied one to the other.
 γ The annular cartilage.
 Near δ is the posterior cricoarytænoideus. See Fig. 6. a.
 ε ε The cavity of the pharynx laid open.
 ζ ζ The membrane of the pharynx cut open.
 η The gula cut off.

FIGURE VI.

This figure follows after that of the larynx contained in the figure last preceding. The left side of the thyroide cartilage being cut off, the remainder represents the larynx with the muscles which lie next under the side of the thyroide cartilage, as also those which are seated in the back part of the larynx.

We have not fixed letters on the scutiform and annular cartilages, with the epiglottis posterior angle of the basis of the left arytenoide, and the small heads of the arytenoide cartilages; because these may be better known or understood from the seventh figure.

- a The posterior cricoarytænoideus, arising from the annular cartilage, and inserted into the arytenoide.
 b The lateral cricoarytænoideus, arising from the upper margin of the cricoide cartilage.
 c d The fasciculus arising from the inner and upper part of the thyroide cartilage, not far from its notch or fissure, and inserted into the basis of the arytenoide cartilage. d the beginning cut off from the thyroide cartilage.
 e The thyro-arytenoideus muscle, arising in one part from the thyroide cartilage, and in the other from the ligament by which the annular and thyroide cartilage are tied together.
 f g h A thin contexture of fleshy fibres, which arising from the thyroide cartilage near the outer part of the origin of the thyro-arytenoideus, ascends by the outer part f of the said muscle behind g, by the side of the glottis, and epiglottis h.
 i The depressor of the epiglottis.
 k The ligament by which the annular and thyroide cartilage are tied one to the other.
 l The left oblique arytenoideus muscle.
 m n The right oblique arytenoideus, n that part of it which goes by the margin of the glottis to the epiglottis: and the other part, near and betwixt n m is continued on to the thyro-arytenoideus.
 o The transverse arytenoideus.
 p The membrane which forms the lateral part of the glottis, extended from the little head of the arytenoide cartilage to the upper part of the epiglottis.

FIGURE VII.

Represents the same contexture of the cartilages of the larynx as the preceding figure, but wholly naked or freed from the muscles and membranes.

- a b c The inner side of the right half of the thyroide cartilage. b the left half which is here cut off and removed. c the upper process.
 d e The cricoide cartilage. e the tubercle to which is tied the lower process of the thyroide cartilage.
 f g h The arytenoide cartilages. g h the basis: g the basis of the posterior angle, projecting like a tubercle; h the anterior angle of the basis, hollow in this part.
 i The small heads added to the arytenoide cartilages.
 k l m n The epiglottis. k the back. l the concave part. m a round body projecting like a ligament in the concave part of the epiglottis, and arising from the inner part of the thyroide cartilage, below its fissure.

FIGURE VIII.

Represents the first order of the muscles which are seated round the larynx, as they appear view'd on the back part. To shew these muscles more distinctly, we have added not only the pharynx, and part of the gula, which is continued to it, but also the os hyoides, larynx, and part of the wind-pipe; likewise the naked bones of the head, to which the pharynx is connected.

We have not here added a full explanation of the bones or parts of the skull, because they may be better understood from the tables which I have prepared, wherein the figures of the bones are expressed in their natural magnitude.

- a b. a b c d e The lower constrictors of the pharynx. b the origin from the cricoide cartilage. c the point in which they terminate above, from c to d the fibres running together form an angle. e the part where the right fibres are continued to the left in a curved direction.
 f The inner transverse fibres of the gula in this place laid bare. g. g the outer fibres descending obliquely backwards on each side.
 h The gula cut off.
 Just above i i is the annular cartilage. see Fig. 14. i i x.
 k k The wind-pipe cut off.
 l l The ends of the horns of the os hyoides.
 m. m The ligaments which belong to the upper processes of the thyroide cartilage from the ends of the horns of the os hyoides. see Fig. 9. B. B.
 n. n o The middle constrictors of the pharynx. o the part where the fibres meet together in angles.
 p q r. p q r The upper constrictors of the pharynx. q the origin from the lower jaw near the innermost of the grinding teeth. r the part where it is cut off from the buccinator.
 s s The naked membrane of the pharynx.
 Just below t t is the circumflex muscle of the moveable palate.
 u v w. u v w The stylopharyngei muscles. v the upper and left part. w the lower and larger part.
 x x The styloide processes of the temporal bones. see Fig. 9. m. m.
 y y The pterygoide processes of the multiform bone.
 z z The upper jaw bone where it forms the gums above the innermost of the grinding teeth.
 α α The innermost of the upper grinders, which are the fifth in order.
 β β The fifth of the lower grinding teeth.

FIGURE IX.

Exhibits the next view after the lower constrictor of the pharynx is taken off. But we have not added the bones of the head, that the upper parts of the pharynx might not be obscured; and because the manner in which the pharynx adheres to the bones of the head may be understood from the figure last preceding. But the styloide processes are added to shew the origin of the stylopharyngei.

- a. a b c The middle constrictors of the pharynx. b the upper point in which they meet. c the lower point, from b to c the fibres converge angularly.
 d e f. d e f The upper constrictors of the pharynx. at e cut off from the buccinator. f the part which arises from the lower jaw.
 g h i i i The naked membrane of the pharynx, in which is a sinuosity at h h near the protuberant ends of the larger internal recti muscles of the head. i i i the parts where it is cut off from the basis of the cranium round the upper part of the Eustachian tubes and internal foramina of the nostrils.
 k k The elevators of the moveable palate. See Fig. 13. and 14. g. g.
 l l The circumflex muscle of the moveable palate. See Fig. 14. n. n. and 15. h. h.
 m n. m n The styloide processes of the temporal bones cut off at their roots n. n.
 o p q r. o p q r The stylopharyngei. p the tendinous beginning arising from the styloide process. q the lower and larger part. r the upper and left part.
 s. s t u v v Parts of the common ends of the stylopharyngei and palatopharyngei, arising principally from the palatopharyngei, and in this place, from t to u the fibres meet together, or run one betwixt the other; in the part from u to v, vanishing on the back side of the membrane of the pharynx; at v inserted into the thyroide cartilage.
 w x y. w x y Parts of the common ends of the stylopharyngei and palatopharyngei, which arise chiefly from the stylopharyngei. x a portion of them inserted into the outer side of the edge of the thyroide cartilage to the root of the upper process. y the portion inserted into the remaining part of the margin of the said cartilage down to the root of the lower process.
 z The naked membrane of the lower part of the pharynx which is continued to the gula.
 A A The ends of the horns of the os hyoides.
 B B The ligaments which belong to the upper processes of the thyroide cartilage from the ends of the horns of the os hyoides.
 C C D D E E F F The thyroide cartilage. C, C the upper processes. D, D the tubercles

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tubercles which are in the outer sides at the roots of the upper processes.
 E E the posterior edges. F F the lower processes.
 G G The annular cartilage. H H the wind-pipe cut off.
 I The posterior cricoarytenoideus. In the other side may be perceived the left.

FIGURE X.

Represents the next view of the muscles after the middle constrictor of the pharynx is taken off. Also we did not think the styloide processes necessary to be added in this figure, because they are in the ninth preceding.

a b c d e e. a b c d e f g The upper constrictors of the pharynx. a the lower part which crosses the upper part b. c d the portion that is partly cut off from the buccinator at c, and in part arises from the lower jaw at d. e. e portions which pass betwixt the upper and lower part of the stylopharyngeus and come hither thro' the upper part. f the upper tip or point in which the right and left of these constrictors meet together. From f to g the fibres of both of them meet in angles.
 h The naked membrane of the pharynx, as in Fig. 9. g h h i i i.
 i i The elevators of the soft or moveable palate. see Fig. 13. and 14. g g.
 k k The circumflex muscle of the palate. see Fig. 14. n. n. and Fig. 15. h. h.
 l m n o p. l m n o p The stylopharyngei. m the tendinous beginning. n the part cut off from the styloide process. o the upper and left part that forms two fasciculi, which both of them pass separately under the fibres of the upper constrictor. p the lower and larger part.
 q r s. q r s Parts of the common ends of the stylopharyngei and palatopharyngei, which are produced from the stylopharyngei. r the portion inserted into the outer side of the edge of the thyroide cartilage, at the root of the upper process. s the portion inserted into the subsequent part of the edge down to the root of the lower process.
 t. t u v w Parts of the common ends of the stylopharyngei and palatopharyngei, whose fibres run together from u to v; from v w the fibres vanish in the back part of the membrane of the pharynx, and at w they are inserted into the thyroide cartilage.
 x The naked membrane of the lower part of the pharynx which is continued to part of the gula.
 y y The ends of the horns of the os hyoides.
 z z The ligaments which belong to the upper processes of the thyroide cartilage from the ends of the horns of the os hyoides.
 α α β β γ γ δ δ The thyroide cartilage. α α the upper processes. β β the protuberances in the outer sides at the roots of the upper processes. γ γ the posterior edges. δ δ the lower processes.
 ε ε The annular cartilage.
 ζ ζ The wind-pipe cut off.
 η The posterior cricoarytenoideus. The left is also represented.

FIGURE XI.

Represents the next face of the muscles after the upper constrictor of the pharynx is taken off.

a The naked membrane of the pharynx. see Fig. 9. h h i i i.
 b b The elevators of the moveable palate. see Fig. 13. and 14. g. g.
 c c The circumflex muscle of the soft palate. see Fig. 14. n. n. and 15. h. h.
 d d The small hooks of the pterygoide processes. see Fig. 16. p. p.
 e e The palatopharyngei.
 f g h i k. f g h i k The stylopharyngei. g the tendinous beginning. h the part where it is cut off from the styloide process. i the upper and left part. k the lower and larger part.
 l m n. l m n Parts of the common ends of the stylopharyngei and palatopharyngei, which arise from the stylopharyngei. m a portion of them inserted into the outer side of the edge of the thyroide cartilage at the root of the upper process. n the portion which is inserted into the subsequent part of the margin down to the root of the lower process.
 o. o p q r Parts of the common ends of the stylopharyngei and palatopharyngei, the fibres of which from p to q run together; from q to r they vanish in the back part of the membrane of the pharynx, and at r they are inserted into the thyroide cartilage.
 s The naked membrane of the lower part of the pharynx, to which is continued part of the gula.
 t t The ends of the horns of the os hyoides.
 u u The ligaments which belong to the upper processes of the thyroide cartilage from the ends of the horns of the os hyoides.
 v v w x x y y The thyroide cartilage. v v the upper processes. w w the tubercles which are in the outer sides at the roots of the upper processes. x x the posterior edges. y y the lower processes.
 z z The annular cartilage.
 A The cricoarytenoideus posticus, which is also represented in the left side.
 B B The wind-pipe cut off.

FIGURE XII.

Exhibits the internal surface of the pharynx entire, as it appears after the whole back part of the pharynx, and adjacent gula, are cut off longitudinally on each side and removed. This figure we have added to render the four following more intelligible.

a a b b c c The edges from whence is cut off the back part of the pharynx and gula.
 d e. d e The Eustachian tubes jetting out. e e the orifices by which they open laterally into the posterior foramina of the nostrils.
 f The septum of the nostrils.
 g g The cavity of the nostrils; in which are seated the lower ossa spongiosa h h, covered with the mucous membrane.
 i i k l The soft palate and uvula. k the part where the body of the uvula is protuberant, l the pendulous part of the uvula.

m m The posterior arches which descend laterally from the soft palate thro' the sides of the pharynx.
 n n The tonsils prominent beyond the posterior arches.
 o o p The tongue. p the middle fossula or cavity upon which the uvula is incumbent.
 q The epiglottis.
 r r The membranous sides of the glottis.
 s s The protuberance of the small heads which lie upon the arytenoide cartilages. Betwixt q r s s is included the glottis.
 f The rima or slit of the glottis.
 t That which is call'd the lateral ligament of the epiglottis, where part of it belongs to the side of the epiglottis, under the investing membrane and common end of the stylopharyngeus and palatopharyngeus. The same is also in the left side.
 u u Concavities at the sides of the tube of the larynx, seated betwixt that and the thyroide cartilage.
 v The back part of the tube of the larynx projecting within the pharynx.
 w w The elevators of the soft palate. See Fig. 13. and 14. g. g.
 x x The circumflex muscle of the soft palate. See Fig. 14. n. n. and 15. h. h.
 y y The small hooks of the pterygoide processes. See Fig. 16. p. p.
 z z The palatopharyngei cut off.
 α β γ δ ε. α β γ δ ε The stylopharyngei. β the tendinous beginning, cut off at γ from the styloide process. δ the lower and larger part. ε the upper and left part.
 ζ ζ The ends of the horns of the os hyoides.
 η η The ligaments which belong to the upper processes of the thyroide cartilage from the ends of the horns of the os hyoides.
 θ θ ι ι κ κ The thyroide cartilage. θ θ the upper processes. ι ι the tubercles which are seated in the outer sides at the roots of the upper processes. κ κ the lower processes.
 λ λ The annular cartilage.
 μ μ The wind-pipe cut off.
 Here are also represented parts of the cricoarytenoidei postici, which may be understood from Fig. XI. last preceding.

FIGURE XIII.

Represents those muscles which lie immediately under the membrane that covers the parts expressed in the fourth and tenth figure, which membrane is here removed. The beginning of the gula and wind-pipe are also taken away, as they are not here necessary.

a a The place where the back part of the pharynx is cut off.
 b c. b c The Eustachian tubes, as yet covered with their membrane which lines the inside of the fauces.
 c c The orifices by which they open at the sides of the posterior foramina of the nostrils.
 d d The cavities of the nostrils:
 e e The lower ossa spongiosa cover'd with the mucous membrane.
 f The septum or partition of the nostrils.
 g h i. g h i The elevators of the soft or moveable palate. h the tendinous part of the beginning, i the lower part of it forming a distinct portion.
 k k The circumflex muscle of the soft or moveable palate. See Fig. 15. h. h.
 l l The small hooks of the pterygoide processes. See Fig. 16. p. p.
 m The azygus or single muscle of the uvula, from its beginning interwove with the tendinous ends of the elevators of the soft palate, and with the tendinous membrane, which coming from the nose, passes thro' the upper part of the soft palate, m Fig. 14.
 n o p. n o p The palatopharyngei. n the part which goes through the soft palate above the elevator of the said palate, and passing out at o from the tendinous membrane, which coming from the nose, passes through the upper part of the soft palate, m Fig. 14. p the part which afterwards passes under the elevator of the palate.
 q q The salpingopharyngei joining to the palatopharyngei.
 r s t u v. r s t u v The stylopharyngei. s the tendinous beginning, t the part where it is cut off from the styloide process. u the upper and left part of the stylopharyngeus: v the lower and larger part.
 w w Parts of the common ends of the palatopharyngei, salpingopharyngei and stylopharyngei, which descend through the sides of the pharynx, are protuberant within the same, and form the posterior arches which descend along the sides of the fauces from the soft palate.
 x y. x y Parts of the common ends of the stylopharyngei and palatopharyngei produced from the stylopharyngei; of which the part x runs inward through the lateral ligament of the epiglottis, near the lateral margin or edge of the epiglottis; the part y is inserted into the upper edge of the thyroide cartilage betwixt its upper process and the epiglottis.
 z z The posterior edges of the soft or moveable palate.
 α The uvula.
 β β The tonsils which are protuberant beyond the palatopharyngei muscles.
 γ The tongue.
 δ The epiglottis.
 ε. ε The membranous sides of the glottis.
 ζ. ζ The small heads which are added to the arytenoide cartilages.
 η. η The oblique arytenoidei muscles which have two terminations, one upper, running thro' the membranous sides of the glottis to the epiglottis: the other lower, which continues itself to the thyro-arytenoideus.
 θ θ θ θ The arytenoideus transversus.
 ι ι κ κ. ι ι κ κ The cricoarytenoidei postici, arising at κ κ from the cricoide cartilage.
 λ The cricoide cartilage.
 μ μ The thyroide cartilage.
 ν ν The ligaments which belong to the upper processes of the thyroide cartilage from the ends of the horns of the os hyoides.
 ξ ξ The ends of the horns of the os hyoides.

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FIGURE XIV.

Represents the next face of the muscles, viz. of the arytenoidei obliqui, and transversus, with the posterior cricoarytenoidei, and the membrane which forms the sides of the glottis betwixt the arytenoide cartilages and the epiglottis; after the salpingopharyngei, azygus of the uvula, and parts of the palatopharyngei which run over the ends of the elevators of the soft palate are taken away.

- a a Denotes the place from whence the back part of the pharynx is cut off.
- b c, b c The Eustachian tubes covered with the membrane which forms and lines the inside of the fauces. c c the orifices which open laterally in the posterior foramina of the nostrils.
- d d The cavities of the nostrils.
- e e The lower ossa spongiosa covered with the mucous membrane.
- f The partition of the nostrils.
- g h i k l, g h i k l The elevators of the soft palate. h the tendinous part of its beginning. i the portion which is fasten'd by a small tendinous end to the tendinous membrane, which coming from the nostrils, is spread thro' the upper side of the soft palate. k the part where the right and left elevator are continued one to the other. l the lower part forming a distinct portion.
- m The tendinous membrane, which coming from the nostrils is spread thro' the upper side of the soft palate.
- n n The circumflex muscle of the soft palate. See Fig. 15. h. h. and 16. i. i.
- o o The small hooks of the pterygoide processes. See Fig. 16. p. p.
- p q r s t, p q r s t The stylopharyngei. q the tendinous beginning, r the part where it is cut off from the styloide process. s the upper and less part, t the lower and larger part.
- From u to v are cut off parts of the common ends of the stylopharyngei and palatopharyngei, which run thro' the back part of the membrane of the pharynx.
- w w Parts of the palatopharyngei which pass thro' the soft palate, under the ends of the elevators of the said palate. Those parts are here removed which pass above the foreaid ends, n. n Fig. 13.
- x x Parts of the common ends of the palatopharyngei, salpingopharyngei and stylopharyngei which descend through the sides of the pharynx, are protuberant within the same, and form the posterior arches which descend along the sides of the fauces from the soft palate.
- y z, y z Parts of the common ends of the stylopharyngei and palatopharyngei produced from the stylopharyngei: of which the part y runs within through the lateral ligament of the epiglottis, to the lateral edge of the epiglottis; z the part that is inserted into the upper edge of the thyroide cartilage, betwixt its upper process and the epiglottis.
- α α The posterior edges of the soft palate.
- β The uvula.
- γ γ The tonsils.
- δ The tongue.
- ε ζ The epiglottis. ζ the round body like a ligament.
- η η The small heads added to the arytenoide cartilages.
- θ θ The arytenoide cartilages.
- ι ι ι ι The annular cartilage. ι ι the surface from whence arise the posterior cricoarytenoidei.
- λ λ μ μ The thyroide cartilage. λ the inner part.
- ν ν The ligaments which belong to the upper processes of the thyroide cartilages from the ends of the horns of the os hyoides.
- ξ ξ The ends of the os hyoides.

FIGURE XV.

Represents the next face of the muscles, after the elevators of the soft palate, with the annular and arytenoide cartilages, and the additaments that are fasten'd to them, are taken away.

- a a The place from whence the back part of the pharynx is cut off.
- b c d, b c d The Eustachian tubes as yet covered at b with the membrane that lines the inside of the fauces, at c they are naked, that part of them having been covered by the elevators of the soft palate. d d the orifices by which they open laterally into the posterior foramina of the nostrils.
- e e The lower ossa spongiosa covered with the mucous membrane.
- f f The cavities of the nostrils.
- g The partition of the nostrils.
- h i k, h i k The circumflex muscle of the soft palate. i the tendon in which it ends. k the tendinous part of its beginning.
- l The outer side of the pterygoide process, which is also in the left side. m m the small hooks in those processes. See Fig. 16. p. p.
- n The aponeuroses of the circumflex muscles. See Fig. 16. m m n.
- o o Parts of the upper constrictors of the pharynx cut off, which arise from the aponeuroses of the circumflex muscles of the soft palate.
- p q r, p q r Parts of the palatopharyngei which pass thro' the soft palate under the ends of the elevators of the said palate; at q q q they pass out from the aponeuroses of the circumflexi; at r they are continued one to the other.
- From s to s are cut off parts of the common ends of the stylopharyngei and palatopharyngei, which run thro' the back part of the membrane of the pharynx.
- t t Parts of the common ends of the palatopharyngei, salpingopharyngei and stylopharyngei, which descend thro' the sides of the pharynx, are protuberant within the same, and form the posterior arches which descend from the soft palate through the sides of the fauces.
- v w, v w Parts of the common ends of the stylopharyngei and palatopharyngei produced from the stylopharyngei; of which the part v runs inward thro' the lateral ligament of the epiglottis, at the lateral edge of the epiglottis; the part w is inserted into the upper edge of the thyroide cartilage, betwixt its upper process and the epiglottis.

- x y z α β, x y z α β The stylopharyngei. y the tendinous beginning, cut off at z from the styloide process. α the upper and less part. β the lower and larger part.
- γ The uvula.
- δ δ The posterior margins of the soft palate.
- ε ε The tonsils.
- ζ The tongue.
- η θ ι The epiglottis. θ the round body like a ligament. ι its origin from the inner part of the thyroide cartilage.
- κ λ μ ν ξ ζ The thyroide cartilage. κ κ the inner sides. λ the unequal protuberance. μ μ the lower processes. ν ν the upper processes. ξ ξ the protuberances in the external sides at the roots of the upper processes.
- ο ο The ligaments which belong to the upper processes of the thyroide cartilage from the ends of the horns of the os hyoides.
- π π The ends of the horns of the os hyoides.

FIGURE XVI.

Follows immediately after the upper part of the last preceding figure, the portions of the upper constrictors of the pharynx and the next adjacent parts of the palatopharyngei being here removed.

- a. a The place from whence the back part of the pharynx is cut off.
- b c d, b c d The Eustachian tubes, as yet covered at b d by the membrane which lines the inside of the fauces, at c c they are naked in those parts upon which lay the elevators of the soft palate. d d the orifices by which they open into the sides of the posterior foramina of the nostrils.
- e e The lower ossa spongiosa covered with the mucous membrane.
- f f The cavities of the nostrils.
- g The partition of the nostrils covered with the mucous membrane.
- h h The parts from whence is cut the membrane which lines the inside of the cavity of the nostrils.
- i k l m, i k l m n The circumflex muscle of the soft palate. k the tendinous part of its beginning. l the tendon. m the aponeurosis inserted into the posterior edge of the palate bones. n the conjunction of the aponeuroses one with the other.
- o p, o p The external sides of the pterygoide processes. p p their small hooks.

FIGURE XVII.

Exhibits the open mouth and fauces, to shew the muscles which appear to belong to the soft or moveable palate on the fore side, after the investing membrane is taken off.

- a a The gums.
- b b The tonsils.
- c c The posterior edges of the soft palate, betwixt which is the uvula.
- d d The fauces.
- e The tongue.
- f g, f g h i The constrictors of the isthmus of the fauces, which in the part f pass from the tongue to the palate before the tonsils. g the part that goes thro' the soft palate. h the place where they conjoin together, and afterwards smaller portions of them run into the uvula at i.
- k k Parts of the palatopharyngei which run thro' the soft palate above the foreaid constrictors, under the elevators of the soft palate.

FIGURE XVIII.

Exhibits the bottom of the foot in which are expressed all the aponeuroses, muscles, and ligaments, which lie immediately next to the common integuments.

- A B C D E F G H The middle aponeurosis of the sole of the foot, on one side joined with the aponeurosis that covers the abductor of the little toe, on the other side with that which covers the abductor of the great toe. B its origin from the protuberance of the calcaneum. C. D. E. F. G the five parts of it which belong to the toes, and which at last, being split at the ends, embrace the tendons, namely of the long flexor of the great toe, and of the long and short flexors of the other toes: from these portions also thin expansions run out further thro' the body of fat, which is placed under the anterior ends of the metatarsal bones, at the roots of the toes; but these we have not added to avoid obscuring the figure. H the portion which joins with the aponeurosis that covers the great toe, and goes to the origin of the short flexor of the great toe.
- I K L M N The aponeurosis that covers the abductor of the little toe. K its origin from the protuberance of the calcaneum. L a portion which it inserts into the first head of the metatarsal bone of the little toe. M a portion that joins the middle aponeurosis of the sole of the foot, but is not always found to do so. N the portion which it gives to the beginnings of the small flexor of the little toe and interosseous muscle of the same toe.
- O P The aponeurosis that covers the abductor of the great toe. P its origin from the calcaneum.
- Q R S The abductor of the great toe. R the tendon conjoined with the ligament S which belongs to the first bone of the great toe from the outer sesamoid bone, and together with the said ligament is inserted into that first bone.
- T The ligament which arising from the outer sesamoid bone of the great toe belongs to the first bone of that toe whereinto it is inserted, and conjoined with the tendon of the abductor of the great toe.
- U V W Part of the short flexor of the great toe belonging to the outer sesamoid bone, and inserting itself into the said sesamoid bone at V; at W joining itself to the tendon of the long abductor of the great toe. X part of the same flexor belonging to the inner sesamoid bone.
- Y Z The common tendinous end of the short flexor and abductor of the great toe with the transversalis, inserted into the inner sesamoid bone of that toe, and afterwards being conjoined with the ligament that goes to the first bone of the toe from the said sesamoid bone, is therewith inserted into that bone at Z.

a The

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- a The ligament which arising from the inner sesamoid bone of the great toe joins itself with the tendinous end of the abductor of the said toe, and therewith belongs to the first bone of that toe into which it is inserted.
- æ a b The tendon of the long flexor of the great toe, inserted at b into the last bone of that toe.
- c The ligament that confines the tendon of the long flexor of the great toe, at the joint of that toe with its metatarsal bone.
- d d Two ligaments which cross each other and confine the tendon of the long flexor of the great toe, where it runs along the bone of the first phalanx of that toe.
- e f g h The Lumbricales: e the first, f the second, g the third, h the fourth.
- i i i The transversalis pedis.
- k The second interosseus of the first of the small toes.
- There is also a portion of the first interosseus of the other side to be seen betwixt the first lumbricalis and metatarsal bone of that toe with the bone of the first phalanx. This is too minute to admit of fixing a letter on it for the explanation; but Fig. 22. m. will help towards a better knowledge of it.
- l The second interosseus of the second of the small toes.
- There is also a part of the first interosseus of this toe, betwixt the bone of the first phalanx and the second lumbricalis. see Fig. 22. s.
- m m The second interosseus of the third of the small toes.
- There is also part of the first interosseus of this toe betwixt the third lumbricalis, the metatarsal bone and the bone of the first phalanx of this toe. see Fig. 22. y.
- n The short flexor of the toes.
- o The interosseus of the little toe; part of which is also present betwixt the fourth lumbricalis and bone of the first phalanx of this toe. See Fig. 22. ε.
- p The short flexor of the little toe.
- q r The abductor of the little toe. r the tendon inserted into the bone of the first phalanx of the little toe.
- s, as in this toe so in the rest of the small toes are represented the ligaments which confine the tendons of the long and short flexors as they pass near the anterior heads of the metatarsal bones.
- t, as in this so in the other small toes are exhibited the ligaments which confine the tendons of the long and short flexors, about the middle of the bones of the first phalanx.
- u, as in this first so in the other small toes are seen the ligaments which confine the tendons of the long and short flexors, about the bones of the second internodes, or phalanx.
- v w w The tendon of the short flexor of the toes: w w the horns of it which belong to the bone of the second order. By the side of this last tendon, next the great toe, is the tendon of the long flexor. The same are also in the rest of the small toes.
- x One of the tendons of the long flexor of the toes inserted into the third bone. A portion of the same tendon is also seen by the side of the short flexor tendon, v which lies next the great toe; as also betwixt the horns w w of that tendon. see Fig. 19. The same is likewise to be understood of the other small toes.

FIGURE XIX.

Represents the first order of the muscles in the sole of the foot, after the aponeuroses and most of the ligaments in the preceding figure are taken away.

- A B C D E The abductor of the little toe composed of two parts A and B. C D the origin from the protuberance of the calcaneum, whence it is outwardly tendinous in the part where it adheres to, and is cover'd by the aponeurosis plantaris. E the tendon inserted into the first bone of the little toe.
- F G H I The abductor of the great toe. G its origin from the protuberance of the calcaneum, whence it is outwardly tendinous and coheres in that part for a considerable length with the aponeurosis that covers it. H the tendon which at last is conjoined with the ligament that belongs to the first bone of the great toe from the outer sesamoid bone of that toe, and is inserted with the same ligament into that first bone.
- K The ligament which arising from the outer sesamoid bone of the great toe, is inserted into the first bone of that toe, and is conjoined with the tendon of the abductor of the great toe.
- L M N O P Q R S T U V The short flexor of the toes. M its origin from the protuberance of the calcaneum, whence it is outwardly tendinous in the part where it coheres for a considerable length from its origin with the middle aponeurosis plantaris, so that it seems in a manner to arise from thence. N the portion belonging to the first of the small toes: O its tendon which at last ends in the two horns P Q. R the portion belonging to the second of the small toes: S its tendon divided in the same manner towards its end into two horns. T the portion belonging to the third toe: U its tendon, in like manner split, at its end, into two horns. V the tendon belonging to the fourth toe, at last, like the rest divided into two horns.
- W A tendinous portion which arises from the lower protuberance of the cubiform bone, and ends in the origin of the short flexor (a) of the little toe, its interosseus muscle Z, and in the second interosseus of the third of the small toes X.
- X Y The second interosseus muscle of the third of the small toes. Y the tendinous end inserted into the first bone of that toe.
- There is also a portion of the first interosseus of this toe, on the other side betwixt its first bone, the metatarsal bone and the third lumbricalis. see Fig. 22. y.
- Z The interosseus muscle of the little toe whose end appears betwixt the fourth lumbricalis and the first bone of the said little toe. see Fig. 22. ε.
- a b The short flexor of the little toe. b its tendinous end inserted into the first bone of the little toe.
- c d e f The lumbricales: c the fourth. d the third. e the second. f the first. see Fig. 20. Z. X. W. S.
- g h The transversalis muscle of the foot, h its tendinous origin. see Fig. 21. f.
- i The second interosseus of the second of the small toes.
- Part of the first interosseus is also in the other side, betwixt the second lumbricalis, the metatarsal bone and first bone of this toe. see Fig. 22. s.
- k The second interosseus of the first of the small toes.
- Part of the first is also on the other side of this toe, betwixt the first lumbricalis, the metatarsal bone, and bone of the first phalanx of this toe. see Fig. 22. m.
- l m One of the tendons of the long flexor of the toes, inserted into the third bone m. Part of this tendon of the long flexor is also seen above, on that side of the tendon of the short flexor which is next the great toe. The like tendon is also in the other small toes. see Fig. 20. N. O. P. Q.

- n o The tendon of the long flexor of the great toe, inserted into the last bone of that toe, o.
- p The abductor of the great toe.
- q q Part of the short flexor of the great toe, belonging to the inner sesamoid bone of that toe.
- r s t The common tendinous end of the short flexor and abductor of the great toe, with the transversalis pedis, inserted at s into the inner sesamoid bone, at t conjoined with the ligament which belongs to the first bone of the toe from the inner sesamoid bone, and inserted with that ligament into the said bone.
- u The ligament which belonging to the first bone of the great toe from the inner sesamoid bone, joins itself with that part of the common end of the short flexor and abductor of the great toe, with the transversalis pedis, which belongs to the adductor.
- v Part of the portion which the middle aponeurosis plantaris gives to the origin of the short flexor of the great toe. see Fig. 18. H.
- w x y Part of the short flexor of the great toe, belonging to the outer sesamoid bone of that toe. x the part where it joins the tendon of the abductor of the great toe, y its insertion into the sesamoid bone.

FIGURE XX.

Exhibits the second order of the muscles in the sole of the foot, after the abductor of the little toe, most part of the abductor of the great toe, and the short flexor of the toes are taken away.

- A B The tendon of the long flexor of the toes: B the knot or induration where this tendon rubs against the calcaneum. C D E F G the muscular head which joins the long flexor of the toes in the sole of the foot, consisting of two portions distinct from the beginning C and D. The one part C arises from the calcaneum at E. The other part D, begins by a thin tendon F, arising from the calcaneum at G. H the portion that joins or continues the tendon of the long flexor of the toes to the tendon of the long flexor of the great toe. I K L M the four tendons into which it divides, with the head that joins it; which tendons belong to the four small toes, and are in a manner split longitudinally at N. O. P. Q, being inserted into the third or last bones, as at R.
- S T V The first lumbricalis, T its origin from the first and second tendon of the long flexor of the toes. V its tendon: from whence the tendons of the rest may be understood.
- W The second lumbricalis.
- X Y The third lumbricalis, Y its origin from the second and third tendon of the long flexor of the toes.
- Z a The fourth lumbricalis, a its origin from the third and fourth tendon of the long flexor of the toes.
- b c d e The tendon of the long flexor of the great toe, increased at c by a portion received from the tendon of the long flexor of the toes, is then in a manner split longitudinally at d, and is at last inserted at e into the last bone of the great toe.
- f g h The tendon of the tibialis posticus. f its knot or turning which lies upon the head of the astragalus. g its insertion below into the navicular bone. h its insertion into the large cuneiform bone.
- i k The two ends of the tendon of the tibialis anticus, one of which i is inserted into the large cuneiform bone, the other k belongs to the metatarsal bone of the great toe.
- l Part of the portion which the middle aponeurosis plantaris gives to the beginnings of the short flexor of the great toe. see Fig. 18. H.
- m n The tendon of the abductor of the great toe cut off. n the end by which it joins the ligament from the outer sesamoid bone to the first internode of the great toe, in which bone it is inserted.
- o The ligament, which belongs to the first bone of the toe from its outer sesamoid bone, conjoined with the end of the tendon of the abductor of the great toe.
- p q r Part of the short flexor of the great toe, which belongs to the outer sesamoid bone of the great toe. q the part where it joins the tendon of the abductor of the great toe. r its insertion into the outer sesamoid bone.
- s s Part of the short flexor of the great toe, which belongs to the inner sesamoid bone of the great toe.
- t t The adductor of the great toe.
- u v w The common tendinous end of the short flexor and adductor of the great toe, with the transversalis pedis: v its insertion into the inner sesamoid bone of the great toe, w its conjunction with the ligament which belongs to the first bone of the great toe from its inner sesamoid bone, and is inserted with that ligament into the said first bone of the great toe.
- x The ligament which belongs to the first bone of the great toe from its inner sesamoid bone, and is conjoined with the tendinous end of the adductor of the great toe.
- y The tendon of the peroneus brevis.
- z α β The tendon of the long peroneus. α the knot or turning where it passes by a protuberance of the calcaneum. β another knot where it bends to the cuboid bone.
- γ δ ε The ligament which arising from the calcaneum δ, inserts itself into the eminence of the os cuboides, at which the tendon of the long peroneus bends itself. ε its insertion into the said eminence.
- ζ The tendinous part which arises from the bottom of the cuboid protuberance, and ends in the origin of the short flexor and interosseus of the little toe, and second interosseus of the third of the small toes. η an excursion of the ligament marked γ, which joining itself to the tendinous part ζ, forms therewith the common tendinous part θ, which joins the origins of the short flexor and interosseus of the little toe, and both the interossei of the third of the small toes, with that of the abductor of the great toe.
- ι x The short flexor of the little toe, x its insertion into the first bone of the little toe by its tendinous end.
- λ The interosseus of the little toe. Its tendinous end, which is inserted into the first bone of this toe, appears betwixt the fourth lumbricalis and the first bone of this toe: See Fig. 22. ε.
- μ ν The second interosseus of the third of the small toes. ν its tendinous end inserted into the first bone of that toe.
- ξ The first interosseus of the third of the small toes, the tendinous end of which is inserted into the bone of the first order of the same toe, and may be seen betwixt the third lumbricalis of the metatarsal bone, and the first internode of this toe. See Fig. 22. y.

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- o The tendinous end of the second interosseus of the second of the small toes, inserted into the first internode of the same toe.
On the other side of this toe lies the tendinous end of its first interosseus, betwixt the first lumbricalis, metatarsal bone, and first internode of this toe. See Fig. 22. s.
π The tendinous end of the second interosseus of the first of the small toes, inserted into the first bone of the said toe.
On the other side of this toe likewise is the tendinous end of the first interosseus betwixt the first lumbricalis, the metatarsal bone, and the first internode of this toe. See Fig. 22. m.

FIGURE XXI.

Represents the third order of the muscles of the foot, having first taken away the muscular head which joins the long flexor of the toes in the sole of the foot, the tendons of the long flexor of the toes, the lumbricales and tendon of the long flexor of the great toe.

- A The tendon of the short peroneus.
B C D The tendon of the long peroneus. C its knot or turning where it is applied to the calcaneum. D the other knot where it bends to the cuboide bone. Betwixt r and l are the portions inserted into the large cuneiform bone. See Fig. 22. g. h.
E F G H I The tendon of the tibialis posticus, cut off at E. F the knot or turning by which it is applied to the head of the astragalus. G its insertion below into the navicular bone. H its insertion into the large cuneiform bone. I the portion which it inserts to the third cuneiform bone, and then runs out to the second and third metatarsal bone, giving a portion to the short flexor of the great toe.
K L M M The ligament which arising from the calcaneum belongs to the cuboide bone, wherein it is inserted at M M.
N The tendinous part which arises from the bottom of the protuberance of the cuboide bone, and ends in the beginning of the short flexor of the little toe, the interosseus of that toe, and the second interosseus of the third of the small toes.
O The excursion of the ligament marked K, which joining the tendinous part N, forms therewith the common tendinous part P, which joins the origins of the short flexor and interosseus of the little toe, both the interossei of the third of the small toes, and of the adductor of the great toe.
Q R The short flexor of the little toe, inserted by its tendinous end R into the first bone of the said little toe.
S The interosseus of the little toe, whose tendinous end, near T, is inserted into the bone of the first order.
U V The second interosseus of the third of the small toes. V its tendinous end inserted into the bone of the first order.
W X The first interosseus of the third of the small toes. X its tendinous end inserted into the bone of the first order.
Y Z The second interosseus of the second of the small toes. Z its tendinous end inserted into the bone of the first order.
a b The first interosseus of the second of the small toes. b its tendinous end inserted into the bone of the first order.
c d The second interosseus of the first of the small toes. d its tendon inserted into the bone of the first order.
e The tendon of the first interosseus of the first of the small toes, inserted into the bone of the first order.
f g h i The transversalis muscle of the foot. g the part which arises from the capsule investing the joint of the third of the small toes with its metatarsal bone. h its tendinous origin. i its extremity by which it joins the common tendinous end of the adductor and short flexor of the great toe.
k l m n The adductor of the great toe. l part of it in some measure divided from the rest. m the tendinous part of its origin. n its tendinous end.
o p q r s Part of the short flexor of the great toe which belongs to the inner sesamoid bone of that toe. p the tendon arising from the calcaneum q, part of which tendon goes into the beginning of this flexor. r the tendinous beginning of this part of the short flexor arising from the middle of the cuneiform bone. s the origin of the tendinous end.
t u v The common tendinous end of the short flexor and adductor of the great toe with the transversalis pedis: u its insertion into the inner sesamoid bone of the great toe. v its conjunction with the ligament which belongs to the first bone of the great toe from the inner sesamoid bone being inserted into the said first bone.
w The ligament which arises from the inner sesamoid bone of the great toe and is inserted into the first bone of that toe conjoined with the tendon of the adductor.
x Part of that portion of the middle aponeurosis plantaris which goes into the origin of both parts of the short flexor of the great toe.
y z α Part of the short flexor of the great toe that belongs to the outer sesamoid bone of that toe. at z it joins the tendon of the abductor of the great toe: α its insertion into the outer sesamoid bone of the great toe.
β γ δ The abductor of the great toe cut off, conjoined by its end δ with the ligament which goes from the outer sesamoid bone of the great toe to its first internode in which they are inserted together.
ε The ligament which belongs to the bone of the first phalanx of the great toe from the outer sesamoid bone, and is conjoined with the tendon of the abductor of the great toe.
ζ η The two portions of the end of the tendon of the tibialis anticus: of which one, ζ, is inserted into the large cuneiform bone: the other, η, belongs to the metatarsal bone of the great toe.

FIGURE XXII.

Exhibits the fourth and last order of the muscles in the sole of the foot, in order to which are taken away the tendon of the tibialis posticus, the ligament which arising from the calcaneum belongs to the cuboide bone, the short flexor of the little toe, the transversalis of the foot, the abductor of the great toe, the short flexor of the great toe, the ligaments which go from the sesamoid bones to the first phalanx of the great toe, and the end of the abductor of the great toe.

- a The tendon of the short peroneus.
b c d e f g h i The tendon of the long peroneus. c the knot or turning which is applied to the calcaneum, d the more considerable knot where this tendon

- bends at the eminence of the cubiform bone. e the end inserted into the metatarsal bone of the great toe. f a portion going off from the tendon, and dividing into two parts g. h, inserted into the great cuneiform bone. i the portion going off the tendon, and inserted into the second metatarsal bone.
k. l The two ends of the tendon of the tibialis anticus, the one of which, k, is inserted into the large cuboide bone, the other, l, into the metatarsal bone of the great toe.
m n o The first interosseus of the first of the small toes. n its origin from the second metatarsal bone. o the tendon inserted into the bone of the first order.
p q r The second interosseus of the first of the small toes. q the tendinous beginning arising from the second and third of the metatarsal bones. r the tendon inserted into the bone of the first phalanx.
s t u The first interosseus of the second of the small toes. t its origin from the second metatarsal bone. u the tendon inserted into the bone of the first phalanx.
v w x The second interosseus of the second of the small toes. w its origin from the third metatarsal bone. x the tendon inserted into the bone of the first phalanx.
y z α The first interosseus of the third of the small toes. z its origin from the fourth metatarsal bone. α the tendon inserted into the bone of the first phalanx.
β γ δ The second interosseus of the third of the small toes. γ its origin from the fourth metatarsal bone. δ the tendon, inserted into the bone of the first phalanx.
ε ζ η The interosseus of the little toe. ζ its origin from the fifth metatarsal bone. η the tendon inserted into the bone of the first phalanx.

FIGURE XXIII.

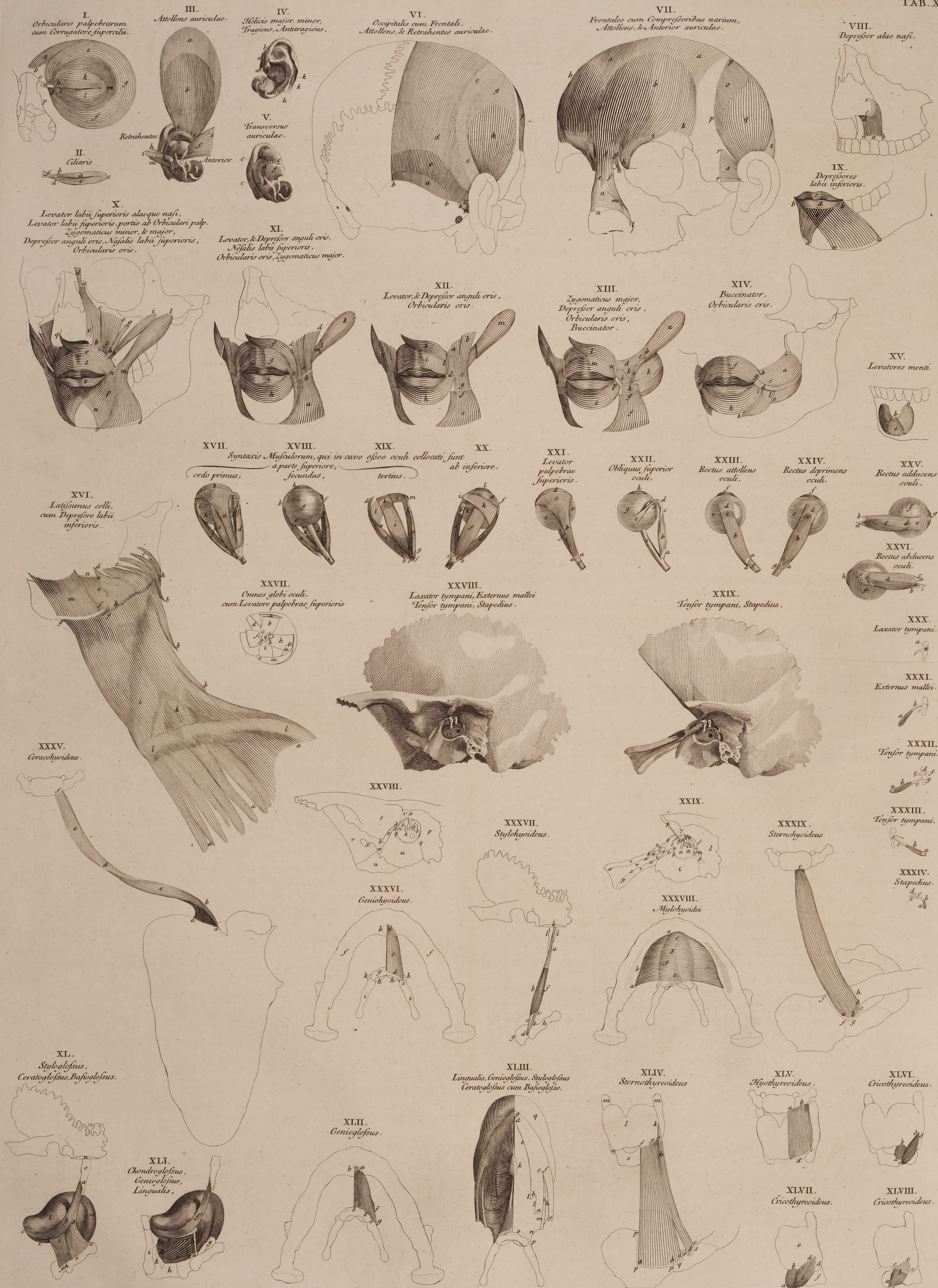
Represents the articulation of the bones of the foot view'd from its bottom. This figure is added, that from thence may be understood the parts of the bones expressed in the other preceding figures of the foot; and it was the more necessary to add this view, as it could not be given in the figures of the Skeletons.

- A B C D E The os calcis. B the protuberance which forms the heel. C an eminence incrustated with a smooth cartilage which sustains the tendon of the long peroneus. D an eminence, from the bottom of which arises the ligament K, Fig. 21. E a sinus or groove, thro' which passes the tendon of the long flexor of the great toe.
F G H The talus or astragalus. G H the lower head incrustated with a smooth cartilage, part of which head, G belongs to the juncture with the calcaneum, but the part H is articulated by a ligament which passes under this head from the calcaneum to the navicular bone.
I K L The cuboide bone. K an eminence, by the side of which passes the tendon of the long peroneus. L a rising tubercle incrustated with a smooth cartilage, on which lies the most considerable knot or turning of the said tendon.
M N The navicular bone. N a rising tubercle, into which is inserted the tendon of the tibialis posticus.
O P Q The great cuneiform bone. P an eminence, into which is inserted the tendon of the tibialis posticus. Q an eminence, into which is inserted part of the tendon of the tibialis anticus, k, Fig. 22.
R The less cuneiform bone.
S T The middle cuneiform bone. T the protuberance from whence arises the tendinous beginning of the short flexor of the great toe, r, Fig. 21.
U V W X The first bone of the metatarsus, belonging to the thumb. V place into which is inserted part of the tendon of the tibialis anticus, l, Fig. 22. W the surface into which is inserted the tendon of the long peroneus. X the anterior head incrustated with a smooth cartilage.
Y. Z The sesamoid bones placed at the joint of the great toe with its metatarsal bone. Y the outer, Z the inner of them.
a. b. c. d. e. f. g. h. i. k. l. m The metatarsal bones of the small toes. a that of the first, b of the second, c of the third, d e of the fourth, of which e is a rising protuberance, f. f. f. f the anterior heads incrustated with a smooth cartilage.
g. h. i. k. l. m The bones of the first order, g that of the great toe, h. i. k. l those of the small toes, m the round head incrustated with a smooth cartilage; and the like is in the other bones of the toes.
n. o. p. q. r The bones of the second order of the small toes. r the round head incrustated with a smooth cartilage: as are also the other bones.
s t The last bone of the great toe: t the protuberance at the end, the like of which is also in the last or third bones of the small toes.
u v w x The third or last bones of the small toes.

FIGURE XXIV.

Gives an internal view of the muscles seated under the sternum, with the next adhering parts of the ribs or thorax.

- a b c d e f g h i k l m n o p q r s t u v w The triangularis muscle of the sternum. a the head arising from the third rib, with a tendinous beginning b: c the origin from the cartilaginous part of the rib, d from the bony part. e the head arising from the fourth rib, with a tendinous beginning f: g the origin from the bony part of the rib, h from the cartilaginous part. i the head arising from the fifth rib, by a tendinous origin k: l the origin from the cartilaginous part of the rib, m from the bony part. n the common tendinous part of the two upper heads, which in some bodies is conjoined with the tendinous part of the lower head o, but in others is separate: it is inserted into the extreme cartilage p of the fourth rib, and into the os pectoris q betwixt the cartilaginous ends of the fourth and fifth rib, into the end of the cartilage of the fifth rib r, into the os pectoris s betwixt the extreme cartilages of the fifth and sixth ribs, into the end of the cartilage of the sixth rib t, and of the seventh u, into the bone of the ensiform cartilage v, and into the ensiform cartilage itself w.
x y z α Is a small muscle here corresponding to the triangularis sterni, and found in some bodies. y its origin from the bony part of the second rib, and from the cartilaginous part z. α its tendinous end inserted into the cartilage of the third rib.
β. γ. δ. ε. ζ. η. θ The ribs: β the second, γ the third, δ the fourth, ε the fifth, ζ the sixth, η the seventh, θ the eighth. ι. κ. λ. μ. ν. ξ. ο the cartilaginous ends of those ribs.
π ε σ τ The os pectoris. π the first and uppermost bone: ε the second which is in the middle: σ the third and lowest, which belongs to the ensiform cartilage. τ the ensiform or pointed cartilage itself. We designedly pass by the other particulars of this os pectoris, as well because they do not relate to the present purpose, as because they will be explained in our tables of the bones.



THE ELEVENTH ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

IN the following Tables all the muscles are exhibited separate from the body, together with the bones to which they are affixed, or on which they lie contiguous, and such other parts belonging to them as seemed necessary. They are all figured twice as large as in the preceding Tables, but in the same position, and in all other respects the same, so far as they are represented in the whole figures: but we must except a few of the muscles, which required to be either drawn in a different position, or in their natural magnitude, of which we shall advertise the reader in its proper place.

The figures of the bones and other parts, being almost every where the out-lines only, are either sufficiently intelligible of themselves, or are so from the Tables of the skeleton and bones; for which reason we have added an explanation to only a few of them.

THE MUSCLES OF THE EYE-LIDS, CIRCUM- FERENCE OF THE EYE AND EYE-BROW.

To these add the *Frontales* Fig. 7.

FIGURE I.

*Represents the orbicular muscle of the eye-lids with
the corrugator of the eye-brow.*

Because the corrugator of the eye-brow is so conjoined with the orbicularis of the eye-lids that it may be reckoned a part of it, we have therefore represented them together.

a The corrugator of the eye-brow going to the upper and inner part of the orbicularis. From which corrugator is formed the outer margin of the orbicularis that passes along the less angle of the eye, and on the cheek.

b Its origin from the os frontis, betwixt the eye-brows and from the head of the eye-brow, by one broad origination.

The systematic connexion of this is seen in the head of Tab. II. a. b. In the first muscular table its origin does not appear, as being concealed under the frontalis.

c d e f g h i k l m The orbicularis muscle of the eye-lids.

e The thicker part of the upper origin, by which it springs as well from the os frontis, immediately above the fore part of the os unguis, as from the adjacent part of the upper jaw-bone. But the origination itself cou'd not be here represented, as one may easily conceive by consulting Tab. I. of the Skeleton.

d The thicker part of the lower origin, by which it arises in the greater canthus from the lower part of the ligament n; but more especially beneath from the edge of the bony orbit of the eye, which is formed by the nasal process of the upper jaw bone. But here also the origination from the bone cou'd not be represented: see Tab. I. of the Skeleton.

e f g The thicker part occupying the circumference of the eye, that is the eye-brow e, a large part of the cheek f, and from the lesser angle even to the temple g, round which angle the fibres are continued.

h The thinner part of the upper origin, by which it springs from the upper part of the ligament n.

i The thinner part of the lower origin, by which it springs from the lower part of the ligament n.

k l The thinner parts which are spread over the eye-lids, and which arise from the ligament n, by the originations h, i; from whence the fibres meet in acute angles beyond the lesser canthus at m, where they cross each other and are interwove.

The systematic connexion of this orbicularis is seen in the head of Tab. I. m n o p q r: where, in the eye-brow and near the greater canthus it is covered by the frontalis d e f g.

n The ligament which is extended transversely from the upper jaw-bone even with the meeting of the eye-lids in the greater canthus.

The systematic connexion of this ligament is seen in the head of Tab. I. s. and of Tab. II. g. in the head.

o The os frontis. See Tab. I. of the Skeleton.

p The nasal process of the upper jaw-bone. see Tab. I. of the Skeleton.

FIGURE II.

The Ciliaris muscle.

a The part which occupies the margin of the upper eye-lid, arising at b from the ligament f.

c The part spread on the edge of the lower eye-lid, and arising also at d from the ligament f.

e The continuation of those two parts round the lesser canthus.

The systematic connexion of the ciliaris is seen in the head of Tab. II. h. h.

f The ligament which is extended transversely according to the meeting of the eye-lids, from the upper jaw-bone to the said meeting of the eye-lids in the greater canthus.

MUSCLES OF THE EXTERNAL EAR.

To these add the *Attollens* and *Retrahens*, Fig. 6; the *Attollens* and *Anterior*, Fig. 7.

FIGURE III.

*Represents the inner side of the attollent, anterior, and
retractive muscle of the external ear.*

a b c c The attollens.

a The thin tendinous beginning.

b The fleshy part.

c c The insertion of the tendinous end into the upper and fore part of the protuberance which is in the back of the cartilage of the outer ear, where it forms outwardly the cavity that lies betwixt the legs of the antihelix.

The anterior fibres incline more backward than the posterior ones do forwards.

Add to this Fig. 6. g h, and Fig. 7. o p p q.

d The eminence or protuberance on the back of the cartilage of the outer ear, where it forms externally the cavity that lies betwixt the legs of the antihelix.

e f g The anterior muscle.

e The tendinous beginning.

f The fleshy part passing into a tendinous end that is inserted at g into the back of that eminence of the helix which divides the concha, running thro' the same.

Add to this Fig. 7. r r s.

h i k l m The retrahent muscles.

h The tendinous beginning of the upper retrahent.

i The tendinous beginning of the middle retrahent, which is here the largest and comes the furthest.

k The common fleshy belly of the upper and middle retrahent, as I found it in the body from whence this figure was taken, and in some others. This fleshy belly goes into a tendinous end, which is inserted into the lower part of the back of the upper of those cavities of the outer ear, into which the concha is divided by the eminence of the helix.

m The lower retrahent as it was found in this body, inserted into the back of the lower of those cavities of the outer ear, into which the concha is divided by the eminence of the helix running thro' it.

Add to these Fig. 6. i k l.

FIGURE IV.

*Represents the greater and less helical muscles, with the
tragicus and antitragicus.*

a b The greater helical muscle arising by a tendinous origin from the upper part of the outer side of the acute process a, of the helix.

b The extremity here inserted, as in some bodies, outwardly into the helix; and in others running along the surface of the elevator of the outer ear.

The systematic connexion of this muscle is seen in Tab. I. @ in the head: and in Tab. IX. n in the head.

c The less helical muscle ascending near the helix d e, on the fore part of the outer ear, where the concha has an incisure or notch, the one end being fixed below the said notch, the other above it.

The systematic connexion is seen in the head of Tab. I. E: and in Tab. IX. o in the head.

f The tragicus arising from the middle of the outer side of the cartilage of the concha g, near the tragus: and terminating in the upper part of the tragus and adjacent part of the concha.

The systematic connexion of the tragicus is seen in the head of Tab. I. A: and Tab. IX. p. in the head.

h k k The antitragicus, arising at h from the outer part of the cartilage of the antitragus i, where it is most protuberant: inserted by a tendinous end k k into the edge of the concha l, in the angle of the notch that is in the cartilage of the outer ear behind the antitragus, at the bottom of the helix.

The systematic connexion is seen in the head of Tab. I. II: and in Tab. IX. q in the head.

ELEVENTH MUSCULAR TABLE.

FIGURE V.
Transversus auriculæ.

a b c d The part belonging to the antihelix, the fibres of which part are longer than the rest. a b its tendinous origin from the posterior part of the back of the upper cavity of the concha. Inserted by a tendinous extremity into a hollow on the back of the antihelix c c, and a small part of it into the protuberant back of the scapha d.

a e e f The part belonging to the scapha, composed of shorter fibres, more loosely conjoined, and for a considerable length divided as into several less distinct and almost tendinous muscles. It arises from the upper part of the back of the superior cavity of the concha a f: is inserted into the lower part of the protuberance in the back of the scapha e e.

This, from its situation, could not be represented in the preceding tables.

MUSCLES OF THE SKIN OF THE HEAD, FOREHEAD, EYE-BROWS, AND BACK OF THE NOSE.

FIGURE VI.

Exhibits the occipitalis with the frontalis. The elevator and Retrahents of the outer ear.

a b b c d e e. The occipitalis.
a The tendinous origin springing from the bone of the occiput b b, and from that of the temple.
c The fleshy part.
d e e The aponeurosis in which the flesh ends. e e the part of that aponeurosis which is raised into a convexity by the subjacent temporal muscle.
The systematic connexion is seen in the head of Tab. V. a b c d d: and in Tab. IX. a b c d in the head.
f The frontalis.
The systematic connection of which is seen in the head of Tab. V. h.
See Fig. 7. a a b & c.

g h The attollens auriculam, or elevator of the outer ear.
g The tendinous beginning of a rounding figure, gradually sent off by thin scattered fibres from the aponeurosis epicranii e e.
h The fleshy part, passing under the outer ear.
Add to this Fig. 7. o p p q, and Fig. 3. a b c c.
The systematic connection is seen in the head of Tab. V. at f g: and Tab. IX. g h in the head.
i k l The retrahent muscles passing under the outer ear.
i The superior retrahent, and k the middle one, both arising tendinous from the occipital bone.
l The lower retrahent, arising also from the occipital bone.
Add to these Fig. 3. h. i k l. m.
The systematic connection is in Tab. V. m. n. o in the head: and in Tab. IX. k. l. m in the head.

FIGURE VII.

The frontales and compressors of the nose: with the elevator and anterior muscle of the outer ear.

a a b b c d e f g h i k The frontales.
a a The aponeurosis of the frontales where they are conjoined with the occipitals.
b b The fleshy parts, beginning by oval tips and conjoined together into one on the upper and middle part of the forehead, c.
d The part running over the glabella and back of the nose, on which at last it forms a thin aponeurosis, that unites with a like thin expansion from the compressors of the nose, with which it is interwove at e, and continued into at f.
g The portion that joins the outer part of the beginning of the elevator of the upper lip and wing of the nose, from whence it is cut off.
h The point that inserts itself into the os frontis in the greater angle of the eye, a little above the ligament by which the greater canthus is tied to the upper jaw-bone, n Fig. 1.
i The place where the fibres bend inward towards the greater angle.
k The part that ends at the orbicularis of the eye-lids. There, in some bodies we observe fibres which join the corrugator near the temples, and therewith surround the lesser canthus.

The systematic connection is seen in the head of Tab. I. a a b b c d d e e f f g g h h i k l.

l m n n The compressors of the wings of the nose.
l The origination, springing from the outer part of the root of the wing of the nose.

m The part where it is extenuated in form of a membrane; which joins with a like membranous extremity of the frontales f, is interwove therewith at e, and rises with thin fibres over the back of the nose, till those fibres of the right and left side intermix at n n.

The systematic connexion is seen in the head of Tab. I. t u: where it is partly covered by the elevator of the upper lip and wing of the nose, x y.

o p p q The elevator of the outer ear.
o The tendinous beginning by thin and scattered fibres, p p going off from the epicranium.

q The fleshy part passing under the outer ear. Add to this Fig. 6. g h, and Fig. 3. a b c c.

The systematic connexion is seen in the head of Tab. I. Γ Δ.

Γ Δ The anterior muscle of the outer ear.
Γ Δ The tendinous beginning, springing by thin scattered fibres from the epicranium, almost in the middle above the os jugale.

Δ The fleshy part going under the outer ear.
Add to this Fig. 3. e f g.

The systematic connexion is seen in the head of Tab. I. Z. Also in Tab. V. k in the head: and in Tab. IX. i in the head.

t The occipital part of the aponeurosis.
The systematic connexion, of which is seen in Tab. I. a.

MUSCLES OF THE NOSE.

Here add the frontalis and compressor, Fig. 7. and elevator of the upper lip and wing of the nose, Fig. 10.

FIGURE VIII.

The depressor of the wing of the nose.

a b The beginning by which it arises from the upper jaw-bone, outwardly where the gums cover the sockets of the dentes incisores a a, and canini b.
c c Its insertion round the root of the wing of the nose.
d Its insertion under or within the nostril, from the septum nasi, where that coheres with the lip to the wing of the nose.

The systematic connexion is seen in the head of Tab. III. l m; where it is in part covered by the orbicularis of the mouth, n. Also in Tab. II. F. in the head; where it is in a great measure covered by the nasalis of the upper lip G, and the orbicularis of the mouth H.

MUSCLES OF THE MOUTH AND LIPS, SOME OF WHICH BELONG TO THE GENA OR UPPER PART OF THE CHEEK; SOME TO THE BUCCA OR LOWER AND LATERAL PART OF THE CHEEK, AND OTHERS TO THE SPACES AT THE SIDES OF THE CHIN.

To these add the Latissimus colli, or quadratus genæ, Fig. 16.

FIGURE IX.

The depressors of the lower lip.

a a. a The origin from the outer part of the lower jaw, a little above its lower edge at the side of the chin.
b b The extremities which belong almost to the whole length of the lower lip, and terminating where it begins to be red.
c The part where they cross each other.
Add to this Fig. 16. m f

The systematic connection is seen in the head of Tab. II. K K L M, and then in Tab. I. M M N in the head; in which last the greater part of this muscle is covered by the depressors of the corners of the mouth Q Q, and the thin fibres L L which seem to come partly from the greater zygomatics, and in part from the depressors of the angles of the mouth.

d e Part of the orbicular muscle of the mouth that is in the red margin of the lips. This is added to shew in what manner the depressors of the lower lip terminate in the said orbicularis of the lower lip.

FIGURE X.

Represents the common elevator of the upper lip and wing of the nose. The proper elevator of the upper lip. A portion joining the upper lip from the orbicular muscle of the eye-lids. The greater and less zygomaticus. The depressor of the corner of the mouth. The nasalis of the upper lip. The orbicularis of the mouth.

These muscles are all figured together, because they cohere so strictly one to the other.

a b c The elevator belonging to the upper lip and wing of the nose.
a The origin, from the nasal process of the upper jaw-bone near the greater canthus of the eye, beginning tendinous.
b The extremity which runs thro' the upper lip near the side of the nose, and being gradually extenuated over the fore part of the nasalis of the upper lip, at last vanishes in the said lip. As it passes near the wing of the nose, it usually inserts fibres into the upper part of the said wing near the cheek; which fibres could not be here represented.

c The thin portion which it sends thro' the fat to the wing of the nose, towards which it gradually vanishes.

d The portion which joins the outer part of this muscle from the frontalis, g Fig. 7. from whence it is cut off.

The systematic connexion is seen in the head of Tab. I. w x y: where its beginning is partly covered by the orbicularis of the eye-lids, q.

e e f The elevator of the upper lips.
e e Its origin which is single, from above the hole that is beneath the bony orbit of the eye, in the direction of the lower edge of the said orbit.

f Its extremity which runs thro' the upper lip, over that part of the orbicularis of the mouth that is formed by the nasalis of the upper lip, and after being gradually extenuated, at length disappears.

Its systematic connexion is seen in the head of Tab. I. z A: where its origin is covered by the orbicularis of the eye-lids, q m.

g h The muscular portion that joins the upper lip from the orbicularis of the eye-lids.

g The part that is cut off from the said orbicularis.

h Its end, which on one side soon joins to the elevator of the upper lip: and afterwards, on the other side, to the less zygomaticus, being extenuated with those muscles thro' the upper lip in which it ends.

The systematic connexion is seen in the head of Tab. I. B.

i k The less zygomaticus.
i Its origin from the fore part of the outer side of the os jugale, a little below the middle of that side.

k Its end extenuated, by which it runs thro' the upper lip, above the orbicularis of the mouth, like the preceding muscles.

The

ELEVENTH MUSCULAR TABLE.

The *systematic connexion* is seen in the head of Tab. I. C: where its beginning is covered by the orbicularis of the eye-lids, m.

l m n The *greater zygomaticus*.

l Its origin from the outer side of the os jugale, a little above its lower edge, in the place where its posterior process begins.

m The place where it joins and enters into the depressor of the corner of the mouth.

n Thin fibres which run first thro' the outside of the depressor of the corner of the mouth, and then upon the depressor of the lower lip, from the corner of the mouth to the opposite side, thro' the adjacent part of the lower lip.

To this add Fig. 13. a b c d e.

The *systematic connexion* is seen in the head of Tab. I. E F G: where its origin is partly cover'd by the orbicularis of the eye-lids, m.

o o m The *depressor of the corner of the mouth*.

o o The origin, from the outer part of the lower edge of the mandible, at the side of the chin.

m Its extremity by which it is continued outwardly to the greater zygomaticus.

Add to this Fig. 11. a b c, Fig. 12. e f g, and Fig. 13. f g h i.

The *systematic connexion* is seen in the head of Tab. I. Q R R S.

p Small fibres that seem to come off from the depressor of the angle of the mouth, and mixing with the like fibres n, from the greater zygomaticus, they run thro' the outer side of the depressor of the lower lip.

The *systematic connexion* is seen in the head of Tab. I. L.

q r The *nasalis of the upper lip*, which may be reckoned an accessory head or portion of the orbicularis of the mouth.

q The beginning arising from the tip of the cartilage in the globe of the nose, from whence, with its fellow, it forms the greater part of the said globe, and from thence being continued along by the edge of the septum of the nose, it is extended out of its coverings down to the partition of the lip.

r The part where it joins the orbicularis of the mouth.

Add to this, Fig. 11. f.

The *systematic connexion* is seen in the head of Tab. II. G. And in Tab. I. H in the head; in which last, as in the present figure, it is partly covered by the end of the elevator of the upper lip, and wing of the nose y, the elevator of the upper lip A, the portion coming from the orbicularis of the eye-lids B, and the less zygomaticus C.

s t The *orbicular muscle of the mouth*.

t The part which is in the red margin of the lips.

Add to this Fig. 11. g h i i, Fig. 12. h i, Fig. 13. m o, and Fig. 14. f g h i k l.

The *systematic connexion* is in Tab. I. I K K in the head: where, as here, it is covered in the lower lip by the greater zygomatics L L, and depressors of the lower lip L Q. L Q.

u The depressor of the lower lip, here covered in a great measure by the depressor of the corner of the mouth o o m: also by thin fibres p, detached in a manner from thence; and the excursion of a thin portion of the greater zygomaticus n, as in the systematic connexion of this muscle in the head of Tab. I. M N, cover'd Q L.

See Fig. 9. a a b c.

The right muscles are easily understood from these left.

FIGURE XI.

Exhibits the greater zygomaticus. The depressor and elevator of the corner of the mouth. The nasalis of the upper lip. The orbicularis of the mouth.

k l m The *greater zygomaticus*.

l The outer part here cut off, which is continued into the depressor of the corner of the mouth, and runs thro' the lower lip. See Fig. 10. m o.

m A thin portion which runs behind the continuation of the depressor and elevator of the corner of the mouth, c Fig. 13.

a b The *depressor of the corner of the mouth*.

b The outer part here cut off, which continues itself to the greater zygomaticus. See Fig. 10. o o m.

c The part which goes into the nasalis of the upper lip, and from thence into the outer part of the orbicularis of the mouth, where it furrounds the upper lip at the corner of the mouth. This part of the depressor lies under the fibres of the greater zygomaticus n, Fig. 10. which is here removed.

Add to this Fig. 12. e f g: and Fig. 13. f g h i.

d e The *elevator of the corner of the mouth*, being here, from its origin, a kind of biceps.

d d Its origin from the small excavation in the fore part of the upper jaw, betwixt the first grinding teeth, and the hole that is below the bony orbit of the eye.

e The part by which it is continued to the depressor of the corner of the mouth.

Add to this Fig. 12. a b c d.

The *systematic connexion* is seen in the head of Tab. II. B C, and then in the head of Tab. I. D D; where it is covered by the outer part of the greater zygomaticus G, which continues itself to the depressor of the corner of the mouth, and runs thro' the lower lip: is also covered by the less zygomaticus C, with the portion from the orbicularis of the eye-lids joining the upper lip B, and the elevator of the upper lip z A.

f The *nasalis of the upper lip*, naked: which joins itself to the orbicularis of the mouth in the upper lip, and is continued to the depressor of the corner of the mouth, c.

See Fig. 10. q r.

The *systematic connexion* is seen in Tab. II. G in the head.

g h i i The *orbicularis of the mouth*.

g The part that is in the upper lip: and its continuation to the depressors of the corner of the mouth at c.

h The part which is in the lower lip.

i i The parts which are seated in the red margin of the lips.

Add here Fig. 12. h i, Fig. 13. m o, and Fig. 14. f h i k l.

The *systematic connexion* is in the head of Tab. III. n o p p q r s. Also in Tab. II. H I I. in the head, where in the lower lip it is covered by the depressors of the said lip K K M. And in Tab. I. in the head, I K K: where in the lower lip it is covered by the depressors of that lip L Q. L Q, and by the greater zygomatics L. L.

FIGURE XII.

Exhibits the elevator and depressor of the corner of the mouth: and the orbicularis of the mouth.

a b c d The *elevator of the corner of the mouth*.

a b The part where it is a kind of biceps at its origin.

c Its continuation to the inner part of the depressor of the corner of the mouth.

d The portion that joins the outer part of the orbicularis of the mouth, where that bends itself round the lower lip.

See Fig. 11. d d e.

e The *depressor of the corner of the mouth*.

f The place from whence the outer part of the depressor is cut off, which partly continues itself to the greater zygomaticus, m Fig. 10, and b Fig. 11; it also partly joins the orbicularis of the mouth, c Fig. 11.

g The inner part which is continued to the elevator of the corner of the mouth.

See Fig. 10. o o m.

h i The *orbicularis of the mouth*.

h The part which is in the lower lip; and which has a continuation to the elevator of the corner of the mouth d.

i The part which is in the lower lip.

See Fig. 11. g h i i.

k The *nasalis of the upper lip*. See Fig. 11. f.

l The place where the orbicularis of the mouth is cut off, and that part of it removed which covers the elevator of the corner of the mouth in Fig. 11.

m The greater zygomaticus, as in Fig. 11. k l m.

FIGURE XIII.

Represents the greater zygomaticus: the depressor of the corner of the mouth. The orbicularis of the mouth: and the buccinator.

a b c d e The *greater zygomaticus*.

b The place where the outer part is cut off, that continues itself to the depressor of the corner of the mouth, and runs thro' the lower lip: as in Fig. 11. l.

c A thin portion which runs behind the continuation of the depressor and elevator of the corner of the mouth: being the same with m in Fig. 11. From hence, at

d It joins chiefly the outer part of the buccinator, and with that goes to the orbicularis of the mouth, forming afterwards a part of the upper lip: while

e Another portion, is incurvated downwards, and continued to the inner part of the depressor of the corner of the mouth.

f g h i The *depressor of the corner of the mouth*.

g The place from whence the outer part is cut off, as in Fig. 12. f, which outer part is continued to the greater zygomaticus, m Fig. 10, and b Fig. 11; and it partly joins the orbicularis of the mouth, c Fig. 11.

h The inner part cut off, which is continued to the elevator of the corner of the mouth, g Fig. 12.

i The portion which joins the inner part of the orbicularis of the mouth in the upper lip.

k k The *buccinator*. See Fig. 14. a, &c.

l The *nasalis of the upper lip*, k Fig. 12.

m Part of the orbicularis of the mouth which is in the upper lip, i Fig. 12.

n The place where it is cut off, as at l, in Fig. 12.

o Part of the orbicularis of the mouth that is in the lower lip, h Fig. 12.

p The place where it is cut off, and where it is outwardly joined by a part of the elevator of the corner of the mouth, d Fig. 12.

FIGURE XIV.

Exhibits the buccinator, and the orbicularis of the mouth.

a b c d e The *buccinator*.

b A portion which goes into that part of the orbicularis of the mouth that is in the upper lip.

c The portion which goes into that part of the orbicularis of the mouth that is in the lower lip.

d A muscular portion of the buccinator that goes to the upper lip, and there joins the inner part of the orbicularis of the mouth.

e The place where the buccinator continues itself to the muscular portion or appendix k l, that joins to the orbicularis of the mouth.

See Fig. 13. k k, and add Fig. 23. Tab. XII.

The *systematic connexion* of the buccinator is seen in the head of Tab. III. v w x y z. And then in Tab. II. z in the head; where part of it is covered by the elevator of the corner of the mouth B, and the depressor E; and part lies hid behind the masseter r. Then in Tab. I. T in the head; where it is also cover'd by the elevator of the corner of the mouth D, the depressor Q S, and lies concealed behind the masseter V; and is finally covered by the greater zygomaticus E G, and the latissimus colli or quadratus genæ δ γ γ.

f g h i The *orbicularis of the mouth*.

f The part which is in the upper lip.

g The place from which is cut off the depressor of the corner of the mouth which goes into the outer part of the orbicularis, where that furrounds the upper lip, near the corner of the mouth c. Fig. 11.

ELEVENTH MUSCULAR TABLE.

- h Part of the orbicularis in the lower lip.
 i The part that goes under the portion d, and joins the buccinator. But outwardly it receives part of the elevator of the corner of the mouth, d Fig. 12. which is here taken off.
 k l The portion or appendix that joins the orbicularis of the mouth, springing from the lower jaw.
 k Its origin from the outer part of the lower jaw, beneath the protuberant socket of the canine tooth.
 l The place where it also joins the buccinator.
 Add here, Fig. 11. ghii, and f, Fig. 12. h i d, and k, and Fig. 13. moi and l. The systematic connexion of the orbicularis is seen in Tab. III. t u in the head; where its first beginning is covered by the elevator of the chin β . And in Tab. II. where it lies betwixt the depressor of the lower lip K L, in the head, and part of the depressor of the corner of the mouth E, where it is also covered by them both, and what part appears naked, is in Tab. I. covered by the depressor of the corner of the mouth Q R R S in the head.

MUSCLES OF THE CHIN.

FIGURE XV.

Represents the elevators of the chin.

- a The beginning arising from the fore part of the lower jaw, immediately beneath its upper edge from the socket of the lateral incisive tooth, and extending from thence on one side to the socket of the middle incisive, and on the other side to the socket of the canine tooth.
 b The place where they are incurvated towards each other, partly continuing, and partly intermixing their fibres in the chin.
 c The fibres which they intermix with the fat of the chin.
 Their systematic connexion is in Tab. III. $\beta \beta \gamma \delta$ in the head; where they are covered at their origin by the orbicularis of the mouth r. And in Tab. II. N O in the head; where the greater part lies under the depressor of the lower lip K K. Finally, in Tab. I. O P in the head; where also the greater part lies under the depressor of the lower lip M M.

MUSCLES OF THE MOUTH, LOWER LIP, ADJACENT CHEEK, EAR, AND SKIN OF THE NECK WHICH IS EXTENDED FROM BELOW THE CHEEK DOWN TO THE BREAST AND SHOULDER.

FIGURE XVI.

Represents the latissimus colli, with the depressor of the lower lip.

- a a a, &c. The latissimus colli, or platysma myoides.
 a a a Its origin composed of thin, and in a great measure scattered fasciculi; by which it arises upon the breast below the clavicle, and upon the shoulder.
 b b b Fasciculi or portions, which in some people join this muscle from the side of the neck.
 c c Scattered bundles of fibres, by which it ends and disappears in the cheek.
 d A portion that is stretched over the outer part of the depressor of the corner of the mouth, towards the said corner.
 e e A thin part that goes under the depressor of the corner of the mouth, with which it runs and adheres.
 f A portion which it gives to the depressor of the lower lip.
 g g The place where it is inserted into the lower jaw beneath the origin of the depressor of the corner of the mouth.
 h h The protuberance or rising of the lower jaw, which it here passes over.
 i k The protuberance of the sternomastoideus i, and cleidomastoideus k, which it covers.
 l l The protuberance of the clavicle.
 The systematic connexion is seen in Tab. I. Ω , &c. in the neck.
 m The depressor of the lower lip. See Fig. 9. a a b c.
 n The depressor of the corner of the mouth here cut off.

MUSCLES OF THE UPPER EYE-LID AND GLOBE OF THE EYE.

FIGURE XVII.

Represents the systematic connexion of the muscles which are placed in the bony cavity of the left eye, view'd from the upper part, with the tarsus or cartilaginous edge of the upper eye-lid, the globe of the eye, the optic nerve, and cartilage of the ring or pulley belonging to the upper oblique muscle.

- a The elevator of the upper eye-lid. See Fig. 21. From its origin it lies partly under the obliquus superior. See Fig. 21.
 b The tarsus of the upper eye-lid.
 c The rectus attollens, a great part of which lies under the elevator of the eye-lid. See Fig. 28.
 g The rectus deprimens. See Fig. 18. d d, and Fig. 19. i k.
 f The rectus abducens. See Fig. 18. a b, and Fig. 19. a b c d. Its extremity or insertion lies partly under the elevator of the upper eye-lid: see Fig. 18. at its origin it lies under the rectus attollens; and also under the optic nerve: see Fig. 18.
 d The obliquus superior with the cartilage of the ring, round which it bends its tendon. See Fig. 22. The tendon at its end lies under the elevator of the upper eye-lid and rectus attollens. See Fig. 22.
 e The rectus adducens lying under the obliquus superior. See Fig. 18. c. and Fig. 19. e f g h.

- h Obliquus inferior. See Fig. 19. l l m.
 i The globe of the eye. See Fig. 18. g.
 k The optic nerve, cut off. See Fig. 18. i.
 The beginning of the obliquus superior, of the elevator of the upper eye-lid, and rectus attollens surround the optic nerve above; as that of the rectus abducens, deprimens, and adducens, surround it below, see Fig. 20.

FIGURE XVIII.

The primary or upper muscles of the figure last preceding being taken away, (namely, the elevator and tarsus of the upper eye-lid, the rectus attollens, and the obliquus superior, with the cartilage of its ring or pulley) the present figure exhibits the next order or appearance of them.

- a b The rectus abducens. b the tendon inserted into the sclerotica. The thicker part of its origination lies under the optic nerve. See Fig. 19. c.
 c The rectus adducens. The thicker head of which lies under the optic nerve. See Fig. 19. f.
 d d The rectus deprimens. See Fig. 19. i k.
 e f The obliquus inferior. See Fig. 19. l l m.
 e The broad extremity of the said obliquus attached to the sclerotica on the outer side of the globe of the eye, betwixt the optic nerve and the middle sphericity of the eye that comes betwixt the said nerve and the cornea.
 g h The globe of the eye. h the cornea.
 i The optic nerve.

FIGURE XIX.

Exhibits the same muscles as the eighteenth figure preceding, after the globe of the eye and optic nerve are taken away.

- a The rectus abducens, c its principal head which is tendinous from the beginning. See Fig. 26. a. b the lesser head which is tendinous. See Fig. 26. c. d the tendon in which it terminates. See Fig. 18. a b.
 e The rectus adducens. f the principal head, the greater of which is tendinous. See Fig. 25. a. g the lesser head which is tendinous. See Fig. 25. b. h the tendon in which it terminates. See Fig. 18. c.
 i The rectus deprimens, which at its origin lies under the rectus abducens a, and the adducens c, k the tendon in which it terminates. See Fig. 18. d. d.
 l l The obliquus inferior. m its tendinous origin. See Fig. 18. e f.

FIGURE XX.

Exhibits the systematic connexion of the muscles belonging to the eighteenth figure, with their lower side turned up to the view.

- a The rectus adducens. c the larger head, the greater part of which is tendinous. See Fig. 25. a. b the tendon in which it terminates. See Fig. 18. c, and Fig. 19. e.
 d e f The rectus abducens. e the lesser head which is tendinous. See Fig. 26. c. f the tendon in which it terminates. See Fig. 18. a, and Fig. 19. a.
 g g The rectus deprimens. See Fig. 24. Fig. 18. d d, and Fig. 19. i k.
 h The obliquus inferior. i the tendinous origin. Its extremity goes under the rectus abducens d. See Fig. 18. e f, and Fig. 19. l l m.
 k l The globe of the eye. l the cornea.
 m The optic nerve.

FIGURE XXI.

Exhibits the elevator of the upper eye-lid.

- a a The tendinous origination, which adheres to the origin of the rectus attollens and together with that arises from the upper and next adjacent inner part of the foramen or hole in the multiform or sphenoidal bone, thro' which the optic nerve enters the bony orbit or cavity of the eye; and below it also coheres with the hard coat or vagina that contains the optic nerve, by small tendinous portions, resembling an aponeurosis or tendinous excursion.
 b The fleshy part.
 c The aponeurosis by which it terminates in the cartilaginous edge of the upper eye-lid, call'd the tarsus.
 d The tarsus of the upper eye-lid.
 e e The globe of the eye.
 f f The optic nerve.

The systematic connexion is seen in Fig. 17. a; where its origin lies partly under the beginning of the obliquus superior d.
 Add to this also Fig. 27. a.

FIGURE XXII.

Exhibits the obliquus superior, vel trochlearis.

- a The tendinous origin by which it springs from the anterior, upper, and lateral part of the edge of the hole thro' which the optic nerve enters; it also coheres below with the vagina of the optic nerve by a sort of tendinous excursion.
 b The fleshy belly.
 c The tendon which at d bends round the cartilage of the ring or pulley thro' which it passes: afterwards it runs back to the upper part of the globe, near which it grows broader and thinner as it advances, inserting itself at last obliquely into the sclerotica e, in the upper side of the outer and posterior quarter of the globe, if we divide the same longitudinally and transversely, thro' the middle of its upper side.
 f The cartilage of a sort of ring or pulley which is fixed to the os frontis under the eye-brow, near the inner corner of the eye; thro' which passes the tendon of the obliquus superior.
 The systematic connexion appears in Fig. 17. d; where the tendon runs first under the elevator of the upper eye-lid, and then under the rectus attollens. See Fig. 27. d.

g h The

ELEVENTH MUSCULAR TABLE.

g h The globe of the eye. h the cornea.
a The optic nerve.

FIGURE XXIII.

The rectus attollens.

a a The tendinous beginning which at first coheres with the elevator of the upper eye-lid, and together with that arises from the inner side of the upper part of the optical foramen: also from the edge of the multiform or sphenoidal bone that is betwixt the optical hole and the hole that immediately follows it: beneath it also adheres to the covering of the optic nerve by small tendinous portions like an aponeurosis.

b The fleshy belly.

c The tendinous surface that makes the beginning of the tendon d, whose extremity is inserted into the sclerotica.

The systematic connexion is seen in Fig. 17. c; where it is partly covered by the elevator of the upper eye-lid a. Add to this Fig. 27. b c c.

e f The globe of the eye. f the cornea.

g The optic nerve.

FIGURE XXIV.

The rectus deprimens, with its lower side upwards.

a The tendinous origin, cohering in some measure with the covering of the optic nerve, and arising from the lower part of the bony portion that divides the optical foramen from that which follows immediately after it, and lies opposite the same bony cavity of the eye. I have also observed a small portion arising from the ligament that goes from the edge of the lower part of the optical foramen, where it looks towards the hole that immediately follows after it, to the opposite edge of the said foramen, where it is round, near the beginning of the slit in which its lower edge ends.

b The fleshy belly.

c The tendinous surface by which the tendon d begins here, and has its end inserted into the sclerotica.

The systematic connexion is seen in Fig. 20. g g: and Fig. 19. i k, where at its origin and upper part it is covered by the rectus adducens e, and the abducens a. Add here Fig. 18. d d, Fig. 17. g. and Fig. 27. l.

e f The globe of the eye. f the cornea.

g The optic nerve.

FIGURE XXV.

A lateral view of the rectus adducens.

a The thick head which is tendinous and arises from the lower part of the optical hole, and the next adjacent side of it that is towards the nose. It also coheres in some measure with the covering of the optic nerve.

b The slender head, which is also tendinous, and coheres at its origin with the elevator of the upper eye-lid and rectus attollens, also with them to the obliquus superior; likewise with them it arises from the optical foramen, and coheres with the covering of the optic nerve.

c The fleshy belly.

d The tendinous surface by which the tendon e begins here, having its end inserted into the sclerotica.

The systematic connexion is seen in Fig. 17. e; where its greater part lies under the obliquus superior d, and at its origin under the elevator of the upper eye-lid. Next see Fig. 18. c, Fig. 19. c, and Fig. 20. a. Add also Fig. 27. e f g.

f g The globe of the eye. g the cornea.

FIGURE XXVI.

A lateral view of the rectus abducens.

a The thicker head, tendinous at its beginning, which arises, first with the rectus deprimens, from the lower part of the optical foramen near the outer side; and from thence it is continued in its lower part from the ligament i, and where that ligament ends, the rest of its lower part (b, here cut off) arises from the nearest part of the edge of the foramen that follows next after the optical hole. And this head coheres in some measure with the vagina of the optic nerve.

c The smaller tendinous head which at first coheres with the rectus attollens, arising with that from the optical foramen, and coheres with the vagina of that nerve.

d The fleshy belly.

e The tendinous surface by which the tendon f here begins, its end being inserted into the sclerotica.

The systematic connexion appears in Fig. 17. f. Fig. 18. a. Fig. 19. a. Fig. 20. d, to which add Fig. 27. h i k.

g h The globe of the eye. h the cornea.

i The ligament which arises from the side of the lower part of the foramen by which the optic nerve enters, where the optical hole is opposite to the other that follows next below it, and from thence it belongs to its opposite margin of that foramen where it is round, near the lower edge of the beginning of the slit in which it ends.

FIGURE XXVII.

Exhibits a perpendicular section of all the muscles of the eye, with the elevator of the upper eye-lid, contained in the bony cavity of the eye, and view'd in the fore part. The fore parts of the recti, upper obliquus, and elevator of the eye-lid, being here cut off.

This figure differs from that in the IVth table, as I have also found it vary in other subjects.

a The elevator of the upper eye-lid. The origination of which cou'd not be represented because of the rectus attollens. See Fig. 21. a a.

The systematic connexion is seen in Tab. IV. a b b in the head; but with its fore part cut off, in Tab. II. c d in the head: which fore part lies behind the orbicularis of the eye-lids Tab. I. o in the head.

b The rectus attollens, arising at c c from the upper part of the optical hole, and from the edge of the multiform bone that lies in the middle betwixt the optical foramen and the other foramen that immediately follows after it below. Add also Fig. 23. a a.

The systematic connexion is seen in Tab. IV. e f in the head; where the fore part is cut off: and in Tab. III. e in the head; which in Tab. II. lies behind the elevator of the upper eye-lid, c d in the head.

d The obliquus superior: whose origination (lying behind the beginnings of the rectus adducens, the attollens, and elevator of the eye-lid) cou'd not be here represented. Add Fig. 22. a.

The systematic connexion is seen in Tab. IV. c d in the head, where the fore part is cut off: and in Tab. III. c d in the head; which there goes behind the rectus attollens e, and the part that here appears naked, lies behind the elevator of the upper eye-lid, Tab. II. c d in the head.

e f g The rectus adducens, f the smaller head arising from the upper part of the external side of the optical foramen, where at its origin it coheres with the rectus attollens elevator of the upper eye-lid, and the obliquus superior. Add Fig. 19. g. and Fig. 25. b.

g The thicker head, arising from the lower part of the optical foramen and from the nearest side of it next the nose. Add here Fig. 19. f. and Fig. 25. a.

Betwixt the thicker head and the optic nerve passes a small artery from the internal carotid..

The systematic connexion is seen in the head of Tab. IV. g h, where the fore part is cut off: and in Tab. III. f in the head.

h i k The rectus abducens, i the smaller head arising from the edge of the multiform bone that lies betwixt the optical foramen and that which follows just below it: and by this head it coheres with the beginning of the rectus attollens. Add Fig. 19. b, and Fig. 26. c.

k The thicker head from the lower part of the optical foramen, near the external side. Add here Fig. 19. c, and Fig. 26. a b.

Betwixt these heads the trunk of the sixth pair of nerves of the brain enters and passes along the bony orbit or cavity of the eye, as does also the trunk of the third pair, and the branch it gives to the rectus attollens.

The systematic connexion appears in Tab. IV. i l in the head; where its fore part is cut off, and in Tab. III. g in the head.

l The rectus deprimens; whose origination cou'd not be here shewn, as it lies under the beginnings of the adducens and abducens g k. See Fig. 24. a.

The systematic connexion appears in Tab. IV. m n in the head; where the fore part is cut off: and in Tab. III. h in the head.

m n o p The obliquus inferior. m its outer part, n its inner part. o its tendinous beginning, arising at the bottom of the orbit of the eye, near its edge from the upper jaw-bone, betwixt the future, proper to that bone in the upper jaw, and the os unguis. Add here Fig. 19. l l m.

The systematic connexion is seen in Tab. IV. o p q in the head: and in Tab. III. i k in the head; where its end goes under the rectus abducens g.

q The foramen by which the optic nerve enters.

r The foramen that follows immediately after the optical hole.

MUSCLES OF THE MALLEUS, STAPES AND MEMBRANE OF THE TYMPANUM.

These could not be represented in any of the views of the preceding tables. In this table, on account of their smallness, they are exhibited in their natural magnitude.

FIGURE XXVIII.

Represents the muscles of the internal ear, together with the small bones of hearing, and the temporal bone, in their natural positions; also part of the multiform or sphenoidal bone.

a The laxator tympani, arising from the upper part of the edge of the tympanum, near the end of the auditory passage, from the place to which the membrane of the tympanum adheres. It is inserted into the handle of the malleus, near the root of its shorter process. See Fig. 30.

b c d The externus mallei.

b The origination from the outer part of the acute process, which the last angle of the multiform bone sends out betwixt the os squamosum and petrosum.

c The fleshy belly a little protuberant.

d The tendon which enters the slit s that is left at the end of the future of the os squamosum and petrosum; and afterwards it goes on thro' the same sinus as holds the longest and slenderest leg of the malleus, to that part of the bony extremity which contains the auditory passage, and affixes itself to the whole length of that process. See Fig. 31.

Just above e appears the tendon of the tensor tympani coming out of the small opening of the bony channel in which it is contained. See Fig. 29. d: and Fig. 32.

Just below i is the tendon of the stapedius (passing out of the little opening in the neck of the cavity in which the stapedius itself is contained) running to the stapes. See Fig. 29. f. and Fig. 34.

k The tympanum.

n The bony channel that contains the tensor tympani. See Fig. 29. s.

o The neck of the little cavity that contains the stapedius.

p Part of the auditory passage left entire, which lies in the os squamosum and mammillare.

q The place from whence part of the auditory canal is cut off, and which is formed by the os petrosum: r the place where the same is cut off from the os squamosum.

ELEVENTH MUSCULAR TABLE.

s A cleft or slit left at the end of the meeting or union of the os squamosum and petrosum, which meeting or commissure is here covered by the external muscle of the malleus; and by this cleft enters the externus mallei.

Above the said cleft s, in which the tendon d is conspicuous, in order to make it so conspicuous, that sinus is cut and laid open longitudinally which is contained in that part of the bony extremity that holds the auditory passage; that sinus thro' which the malleus extends its longest and slenderest process, and along which the tendon passes that belongs to the externus mallei, and is inserted into the said process.

t The os squamosum.

u u The os petrosum.

v Part of the multiform bone. W the sharp process which the last angle of the multiform bone sends out betwixt the os squamosum and petrosum.

x The foramen, out of which passes the third branch of the fifth pair of nerves of the brain.

The malleus, incus, stapes, fenestra, and aqueduct, are pointed out in the figure next following.

FIGURE XXIX.

Represents the muscles call'd tensor tympani and stapedius, with the small bones of hearing, and the temporal bone in their proper situations; also part of the soft portion of the Eustachian tube. The laxator tympani and externus mallei being here taken off.

a b c d The tensor tympani.

a The very thin tendinous beginning, arising at b from the upper part of the Eustachian tube, where that tube looks towards the basis of the skull, and is of a cartilaginous nature, hard by the hole of the multiform bone that admits arteries to the dura mater, under the scale of the multiform bone which is connected to the os petrosum at the inner side of the said hole.

c The fleshy part where that passes thro' the beginning of the bony canal which is but half a canal; from whence it goes on thro' the said canal, and its tendon being got out of the opening of the said canal near d, bends itself round the said opening and then goes to its insertion into the handle of the malleus, below its slenderest process, where the said handle lies towards the bottom of the tympanum opposite the membrane. See Fig. 32. and 33.

e f The stapedius.

e The belly lying in the little cavity of the os petrosum, which is fixed in the tympanum below the lower part of the Falloppian aqueduct, and arising from thence all the way from its origination. f the tendon which arising in the cavity, passes afterwards out of its round mouth or opening, and so soon as it is got out bends itself, and then goes straight to the back part of the head of the stapes into which it inserts itself. Add here Fig. 28. i: and see Fig. 34.

g The incus.

h The malleus. See Fig. 32. d e f g.

i The stapes, with its basis resting on the oval fenestra or aperture. See Fig. 34. d e.

k The aqueduct of Falloppius; part of which also appears betwixt the malleus and incus.

l The fore side of the little cavern or cavity which contains the stapedius, projecting within the tympanum longitudinally from the bottom of the cavern to its opening that is cut off.

m Part of the os petrosum cut off, where the auditory passage here ends. It is cut off down to the posterior part of the little cavern that contains the stapedius; and this part of the bone is thick.

Therefore betwixt l and m the small cavern is laid open by cutting out the intermediate bone, that the stapedius might thus be entirely view'd.

n The fenestra rotunda, or round opening.

o Part of the os petrosum cut off down to the bony part of the Eustachian tube.

p The os squamosum cut off. See Fig. 28.

All that is bony betwixt the two parts o and p is here removed that the canal r r s, and the muscle c, might be entirely viewed.

q The place from whence the scale of the os petrosum is cut off, which meeting with the os squamosum, divides the tympanum in this place from the cavity of the skull.

r r s The canalis ossis, here at its origin but half a canal r r, afterwards compleat or entire s, (but in some bodies it is all the way but half a canal) which is fitted to receive the tensor of the tympanum partly above the bony part of the Eustachian tube, and partly in the upper and fore part of the tympanum over against the membrane of the tympanum.

t u The bony part of the Eustachian tube. u its opening into the tympanum.

v v w Part of the Eustachian tube which is very much of the nature of a cartilage. x x x x the places from whence the membranous part is cut off. y a portion of the membranous part that is cut off in a straight course to the end of the tube. v v the external parts of the portion which is of a cartilaginous nature: w the inner side thereof, forming a large concavity of the tube.

z Part of the os petrosum belonging to the cavity of the skull.

α The concavity of the tympanum.

β β The place from whence part of the auditory passage is cut off, formed by the os petrosum, as at q q in Fig. 28.

γ That part of the auditory passage cut off which is a continuation of the os squamosum, as at r in Fig. 28.

δ Part of the auditory passage entire, which is contained in the os squamosum and mammillare.

ε The os petrosum.

FIGURE XXX.

The Laxator tympani.

a The laxator tympani inserted into the handle of the malleus near the root of its shorter process.

The systematic connexion is in Fig. 28. a, where the position is the same, and natural.

Concerning the malleus, see Fig. 32. d e f g.

FIGURE XXXI.

The externus mallei.

a The fleshy belly.

b The tendon, inserted into the whole length of the longest and slenderest process of the malleus.

The systematic connexion is in Fig. 28. b c d, where the position is the same as here.

Concerning the malleus see Fig. 32. d e f g.

FIGURE XXXII.

The tensor tympani.

a The tendinous beginning.

b The belly.

c The tendon.

The systematic connexion is in Fig. 29. a b c d, where the position is the same. Add Fig. 33.

d e f g The malleus. d the head. e the slenderest and longest process. f the shorter process. g the handle.

FIGURE XXXIII.

The tensor tympani, a posterior or inner view of it. See Fig. 32.

a The tendinous beginning.

b The belly.

c The tendon inserted at d into the handle of the malleus below its very slender process, where the handle lies towards the bottom of the tympanum opposite the membrane.

Concerning the malleus, see Fig. 32. d e g.

FIGURE XXXIV.

The stapedius.

a The belly.

b The tendon, inserted at c into the head of the stapes, where it inclines backward.

The systematic connexion is in Fig. 28. i, and Fig. 29. e f, the position is the same in both.

d The little head of the stapes from whence two legs go on to the basis e.

MUSCLES OF THE OS HYOIDES.

FIGURE XXXV.

The coracohyoideus.

a a The origin from the extreme edge of the upper margin of the scapula, near the half moon or notch that is at the root of the coracoid process, from whence it bends itself at b.

c The first belly.

d The middle tendon.

e The second belly.

f Its insertion into the lower and fore part of the basis of the os hyoides, near its horn, by a tendinous extremity.

The systematic connexion is in Tab. II. α α β in the neck; where it is covered or concealed by the sternocleidomastoideus η θ ι κ, and by the subclavius σ at its origin behind the clavicle, and the serratus magnus Ψ. And those parts of it which appear naked in Tab. II. lie under the latissimus colli Tab. I. Ω in the neck. It lies also partly under the cucullaris.

FIGURE XXXVI.

The geniohyoideus view'd from below.

a The tendinous beginning by which it arises from the tubercle or rough eminence b, that is fixed on the inner side of the lower jaw opposite the chin.

c The fleshy body.

d e The end inserted into the excavation d, which is the upper and fore part of the basis of the os hyoides, near the middle of the said basis; and is continued to the remaining part of the basis from the excavation to the horn, and nearest part of the horn itself e. 'Tis thicker at its insertion into the excavation, but thinner where it is inserted into the rest of the basis and horn.

The systematic connexion is exhibited laterally in Tab. X. Fig. 2. r s; where its extremity is seated behind the basioglossus o. In Fig. 1. of that table it is not to be seen, as it lies behind the mylohyoideus d.

f f The under side of the lower jaw: the same as we have represented it in the tables of the bones.

g h h i k k The lower part of the os hyoides. g h h the basis; g its anterior part, h h the posterior part. i i the horns. k k the small grain-like bones.

FIGURE XXXVII.

The stylohyoideus.

a The slender tendon by which it begins, and which arises from the back part of the styloid process of the temporal bone, hard by the small bone, which being joined to that process is in many people moveable.

b The fleshy belly.

c The tendon, inserted at d into the anterior and lower part of the basis of the os hyoides, where the horn is joined to it.

e The slit in the fleshy part and in the tendon thro' which passes the digastric of the lower jaw: and above that slit is a sinus impressed by the said adjacent digastric muscle.

The

ELEVENTH MUSCULAR TABLE.

The systematic connexion is in Tab. X. Fig. 1. e f; where it is in part covered by the digastric of the mandible g i. Then in Tab. IX. λ in the head; where it is in part covered by the latissimus colli μ, and in part by the sternocleidomastoideus ε. The fore part of it, in Tab. II. R in the neck.
g h i The os hyoides. g the basis, h the horn, i the small grain-like bone.
k The mastoide process cut off near the root of the styloide process.
l l The styloide process of the temporal bone.

FIGURE XXXVIII.

The mylohyoideus viewed from below.

a a The beginning for the most part tendinous, arising from the eminence b that goes thro' the length of the jaw, from the innermost grinding tooth to the symphysis of the lower jaw, being extended from behind obliquely forward towards the chin.
c The place where the right and left join together and are continued in one fleshy part. c d the tendinous line formed by the meeting of the right and left. e the aponeurosis.
f The insertion of that aponeurosis into the anterior and lower part of the basis of the os hyoides.
g The convexity that is formed about the geniohyoideus.
The systematic connexion is shewn laterally in Tab. X. Fig. 1. d; where it covers part of the digastric of the lower jaw h i. In Fig. IX. no part of it appears being covered over by the latissimus colli, μ in the neck. The fore part is seen in Tab. III. η in the neck, and Tab. II. Q in the neck.
Concerning the lower jaw and os hyoides, see Fig. 36.

FIGURE XXXIX.

The sternohyoideus.

a b c d The tendinous beginning arising from the inner part of the breast-bone, and particularly from that protuberant part of its margin which sustains the clavicle near the cartilage of the first rib: it continues also to arise from the upper and posterior part of the end of that cartilage b, and the ligament c, by which the clavicle is tied to that cartilage, likewise from the nearest posterior and lower part of the head of the clavicle d.
e The tendinous end, inserted into the lower part of the basis of the os hyoides near its middle.
The systematic connexion is seen in Tab. II. γ γ δ in the neck, where it is in part covered by the sternomastoideus η θ, also by the clavicle, sternum and cartilage of the first rib. Then in Tab. I. ι in the neck, where the latissimus colli Ω is spread over the greatest part of it.
f f g h The sternum, cut off f f, g the cartilage of the first rib, h the clavicle; that thus the beginning of the sternohyoideus behind it might appear to view.

MUSCLES OF THE TONGUE.

FIGURE XL.

The styloglossus. Ceratoglossus and basioglossus.

a b c d The styloglossus.
a Its origin from the anterior, inner, and almost extreme part of the styloide process which is moveable in younger subjects.
b The place where it first joins the tongue near the end of the ceratoglossus, by which it goes along, is extended near to the end of the basioglossus, and runs on further forwards to the tip of the tongue e.
d The place where it is incurvated a little downward, and continues itself to the ceratoglossus.
Add here Fig. 43. e f g.
The systematic connexion is in Tab. X. Fig. 2. k l m; where at its origin it lies concealed behind the mastoide process of the temporal bone. Then in Fig. 1. just above k; where the greater part is covered by the mylohyoideus d, the stylohyoideus e, and the digastric of the lower jaw g. And lastly, in Tab. IX. betwixt x and λ in the neck; where it is covered by the stylohyoideus λ.
e e f The ceratoglossus.
e e Its origin from the outer part of the lower edge of the horn of the os hyoides, from the extremity thereof, almost to that part which is connected with its basis.
f The part that belongs to the tongue.
d The place where it is continued to the styloglossus.
Add here Fig. 43. h.
The systematic connexion is seen in Tab. X. Fig. 2. n, and in Fig. 1. m, where it is in part covered by the digastric of the lower jaw g i, in part by the stylohyoideus e. In Tab. IX. it lies concealed behind the sternomastoideus ε in the neck. The anterior view of it is in Tab. III. ι in the neck; and in Tab. II. T in the neck.
g h i The basioglossus.
g h Its origin, g from the lower and fore part of the basis of the os hyoides near its horn; and from the next adjacent and fore part of the horn itself h.
i The part that joins the tongue.
Add here Fig. 43. h.
The systematic connexion is in Tab. X. Fig. 2. o, where part of its origin that springs from the os hyoides is covered by the geniohyoideus r. Then in Fig. 1. k l; where it is in part covered by the mylohyoideus d, and stylohyoideus e f, and digastric of the lower jaw i. Lastly, in Tab. IX. just below the styloglossus, which lies betwixt x and λ in the neck.

k Part of the lingualis. See Fig. 41. e.
l m The tongue. l the part contained in the mouth. m the part incurvated in the fauces. See Tab. X. Fig. 5. h i.
n The mastoide process here cut off, as in Fig. 37. k.
o The styloide process of the temporal bone.
The os hyoides is the same here as in Fig. 37.

FIGURE XLI.

The chondroglossus, genioglossus, and lingualis.

a b The chondroglossus.
a The origin from the upper part of the beginning of the small grain-like bone of the os hyoides.
b The place where it intermixes with the genioglossus, and then goes into the tongue near the beginning of the lingualis.
The systematic connexion is in Tab. X. Fig. 4. t, and in Fig. 3. just above η; where its greater part is covered by the fibres of the genioglossus, which are incurvated by the side of the pharynx l: and what there appears naked, is in Fig. 2. concealed behind the ceratoglossus o.
c d The genioglossus.
d The tendinous beginning, by which it arises immediately above the geniohyoideus from the rough eminence k, that is fixed in the inner side of the lower jaw at its symphysis. From thence it goes to the tongue.
But here we have removed those fibres which it inserts into the small grain-like bone of the os hyoides; as also we have removed those thin fibres which are incurvated laterally thro' the membrane of the pharynx.
Add here Fig. 42, and Fig. 43. k l l l m n o p.
The systematic connexion is in Tab. X. Fig. 5. o p q, and then in Fig. 4. s f, Fig. 3. i k, and Fig. 2. q; where part of it is covered by the basioglossus o: and what there appears naked, in Fig. 1. lies behind the mylohyoideus d.
e The lingualis. See Fig. 43. a b c d.
The systematic connection is in Tab. X. Fig. 5. n, and in Fig. 4. r. Fig. 3. h. And then in Fig. 2. p; where it is partly covered by the basioglossus o.
f The styloglossus. See Fig. 40. a b c.
The ceratoglossus and basioglossus are here cut off betwixt the styloglossus f, the chondroglossus a b, and the lingualis e. See Fig. 40. f. i.
g The epiglottis.
h The inner side of the lower jaw. i the part which is cut thro', as in Tab. X. Fig. 2. t.
k The rough tubercle or eminence in the inner side of the lower jaw, at its symphysis.
Concerning the tongue see Fig. 40. l m. And for the os hyoides see Fig. 37. g h i.

FIGURE XLII.

The genioglossus viewed from below.

a The tendinous beginning by which it arises immediately above the geniohyoideus from the rough eminence b, that is seated on the inner side of the lower jaw at its symphysis.
c d d e A thin tendinous part which at d d belongs to the basis of the os hyoides and inserts itself at e into the small grain-like bone.
f Thin fibres here cut off which join the inner part of the ceratoglossus.
g Those fibres cut off which run thro' the side of the pharynx, and which are continued into the upper constrictor of the pharynx.
Add here Fig. 41. c d, and Fig. 43. k l l l m n o p.
The lower jaw and os hyoides may be known from Fig. 36.

FIGURE XLIII.

Represents the tongue stretched out longitudinally with its lower side turned up to shew the lingualis, genioglossi, and ends of the styloglossi, Ceratoglossi, and basioglossi.

a b c d The lingualis.
a b Two beginnings by which it proceeds into the tongue at its root, betwixt the fibres of the genioglossi: the first of them a, betwixt that part of the genioglossus which is incurvated laterally and joins the ceratoglossus, and the part that there inserts itself into the tongue.
c The place where it joins with the styloglossus, and with that runs afterwards to the tip of the tongue d.
See Fig. 41. e.
e f g The styloglossus.
e The place where it is cut off.
f The place where it joins with the lingualis and with that runs to the tip of the tongue g.
See Fig. 40. c e f. g h i.
k l l l m n o p The genioglossus, which because it is cut off from its origin, and the tongue stretched out longitudinally, has here changed its figure; as will appear if you consult Fig. 41. c d.
k The origination cut from the lower jaw.
l l l Here it belongs to the tongue near the lingualis.
m Fibres which join the inner part of the ceratoglossus and with that go to the tongue.
n Fibres which are incurvated thro' the side of the pharynx; some of which go to the upper constrictor of the pharynx.
o A thin tendinous part belonging to the basis of the os hyoides. p a portion inserted into the upper part of the beginning of the small grain-like bone of the os hyoides.
See Fig. 41. c d.
q The tongue.
Concerning the os hyoides, see Fig. 36.

ELEVENTH MUSCULAR TABLE.

MUSCLES OF THE LARYNX.

Add here the stylopharyngeus Fig. 27. 28. and 30. Tab. XII.

FIGURE XLIV.

The sternothyroideus.

a b c The broad origination from the internal amplitude of the breast-bone, opposite the lower part of the cartilage of the first rib; and from the edge of the same bone near the same part of the said cartilage: and the portion b c from the inner part of the termination of the said cartilage.

d e The other narrower origination from the upper and posterior part d of the middle of the cartilage belonging to the first rib, and from the adjacent ligament e, by which the clavicle is tied to that cartilage.

f g The broad and thin part of its termination, which is tendinous at g, and inserted into the external part of the side of the thyroide cartilage, first a little above its lower edge in the fore part, and from thence obliquely upwards and backward towards the tubercle which that cartilage has in the fore part of its upper process; in which place the thyroide cartilage is protuberant in some people.

h The narrower and thicker part of the end, inserted by a tendinous extremity i, into the fore-mentioned tubercle k.

The systematic connexion is in Tab. III. $\pi \pi \sigma \sigma \xi \xi$ in the neck; where its origin lies behind the clavicle, sternum, and cartilage of the first rib. Then in Tab. II. $\varepsilon \varepsilon \varepsilon$ in the neck; where it is covered by the sternohyoideus $\gamma \gamma$, coracohyoideus $\alpha \beta$, and sternocleidomastoideus $\eta \eta$: and what part of it there appears naked above and below the sternomastoideus, the same lies behind the latissimus colli, Tab. I. Ω in the neck. Then in Tab. I. ν in the neck.

l m n The thyroide cartilage. m m the upper processes. n the lower process.

o The cricoide or annular cartilage.

p p p The sternum cut off, with the cartilage of the first rib q r s; that thus the origin of this muscle, which is seated behind it, might appear to view.

FIGURE XLV.

The hyothyroideus.

a b The origination, a from the lower and inner part of the basis of the os hyoides near its horn; and from almost half of the horn itself that is next the basis b.

c d e Its insertion, c d into the lower part of the external side of the thyroide cartilage, just above the insertion of the broader end of the sternothyroideus, f g Fig. 44: and before the insertion of the part d e into the external and lower edge of the thyroide cartilage, near the middle of its fore part.

The systematic connexion is in Tab. III. ς in the neck. Then in Tab. II.

Y in the neck; where the greater part is covered by the coracohyoideus $\alpha \beta$, and the sternohyoideus $\gamma \delta$: and what part there appears naked, lies behind the latissimus colli, Tab. I. Ω in the neck. It is seen laterally in Tab. X. Fig. 1. q.

FIGURE XLVI.

The cricothyroideus, a front view.

This muscle consists of two parts, the one anterior, the other posterior.

a b The anterior part which arises at a from the upper edge of the annular cartilage that belongs to its anterior and lateral part: b its insertion into the external part of the lower margin of the thyroide cartilage, near its middle.

c d d The posterior part, which arises at c from the external part of the annular cartilage, from the middle of its length-wise, and almost from its whole breadth: at its end d d, in its outer part it joins to the lower constrictor of the pharynx.

Add here Fig. 47. and 48.

The systematic connexion is in Tab. III. o in the neck, where a large part of it is covered by the sternothyroideus $\pi \sigma$: and what there appears naked, in Tab. II. lies behind the sternohyoideus, γ in the neck.

FIGURE XLVII.

The cricothyroideus, a lateral view.

a b The anterior part, which here arose at a from the external and fore side of the annular cartilage even to its lower edge. b its insertion into the outer part of the lower edge of the thyroide cartilage near the middle of its fore part.

c d d The posterior part, which in the end of its outer part d d joins to the lower constrictor of the pharynx, whence it is here cut off.

Add here Fig. 43. and 46.

The systematic connexion is in Tab. X. Fig. 1. v w x y.

e The thyroide cartilage.

f The cricoide cartilage.

FIGURE XLVIII.

The posterior part of the cricothyroideus, a lateral view.

a a Its origin from the external part of the annular cartilage, for almost the whole breadth or height of its middle part length-wise.

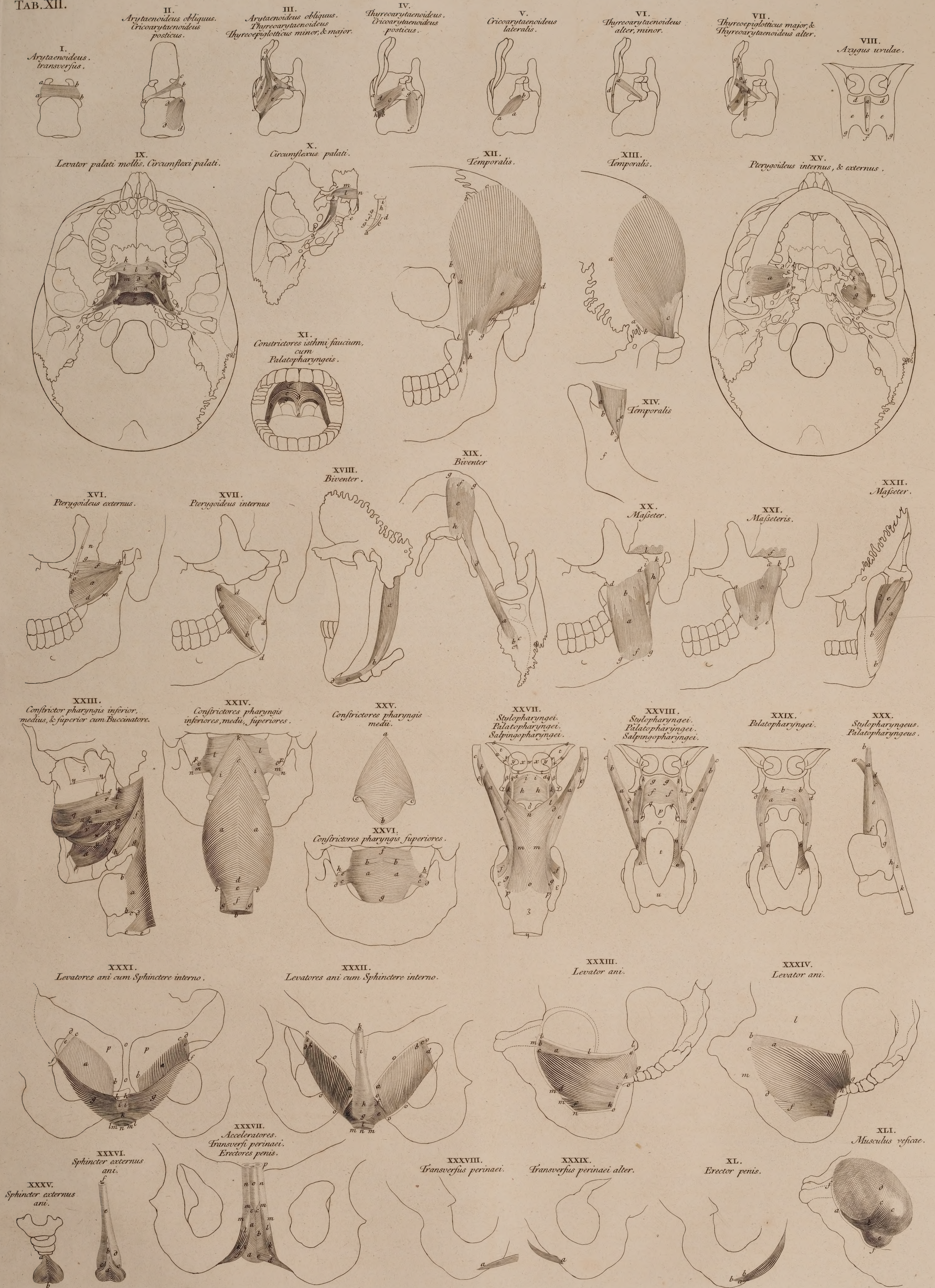
b The place from whence its outer part is cut off, which joins to the lower constrictor of the pharynx; under which it is inserted into the thyroide cartilage, occupying the whole lunar edge c c c, that is formed as well by the lower process of the thyroide cartilage, as by the lower margin itself of that cartilage, from the said process even to the tubercle which projects in the middle of its edge longitudinally.

The part of this muscle that belongs to the inner margin of the thyroide cartilage could not be represented in this figure.

Add here Fig. 47.



TAB. XII.



THE TWELFTH ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

MUSCLES OF THE GLOTTIS AND EPIGLOTTIS.

FIGURE I.

Arytaenoideus transversus, its posterior side.

a a Its infertion into the inner edge of the back-part of the left arytenoide cartilage, above its basis.

b b A like infertion of it into the right arytenoide cartilage.

The *systematic connexion* is seen in Tab. X. Fig. 13. *θ θ θ θ*; where it is partly covered by the arytenoidei obliqui *η η*. Also in Fig. 12. it is covered by the membrane of the pharynx *v*. Laterally in Fig. 6. o, of the same table it is in part covered by the obliqui *l m m*.

The cartilages of the larynx as well in this as in the next figure may be known from Fig. 14. Tab. X.

FIGURE II.

The arytaenoideus obliquus, and cricoarytaenoideus posticus, the posterior view or side of them.

a b c The *arytaenoideus obliquus*.

a Its origin from the upper and outer part of the posterior side of the basis of the arytaenoide cartilage.

b The lower part of its extremity that is continued to the thyreoarytaenoideus.

c The upper part of its extremity that goes to the epiglottis.

Before it ends in these extremities it bends itself forward and round the back part of the tip of the arytenoide cartilage, and round the additional cartilage or appendix of the said tip.

Add here Fig. 3. a b c d.

The *systematic connexion* is seen in Tab. X. Fig. 13 *η*; where the right obliquus crosses the left. But in the 12th figure they are covered by the membrane of the pharynx *v*.

d d d e The *cricoarytaenoideus posticus*.

d d d Its origin from the cricoide cartilage, whose hollow surface it occupies, which it has in the back part and side of the middle eminence.

e The extremity inferted into the end of the protuberance that rises up in the back part of the outer side of the basis of the arytenoide cartilage.

Add here Fig. 4. f f g.

The *systematic connexion* is seen in Tab. X. Fig. 13. i; in part going under the thyroide cartilage *μ*. in Fig. 12. it is covered by the membrane of the pharynx *v*, except a small part below *κ*; which is also to be seen in Fig. 11. A, and in Fig. 10. *η*, and in Fig. 9. I.

FIGURE III.

The arytaenoideus obliquus, thyreoarytaenoideus, and thyreoepiglotticus, greater and less view'd laterally.

a b c d *Arytaenoideus obliquus*.

b The lower part of its end, which is continued to the thyreoarytenoideus e.

c d The upper part of its extremity, which is directed in course along by the margin of the glottis, betwixt the arytenoide cartilage and the epiglottis, and having reached the latter is inferted into its lateral margin at d.

Add here Fig. 2. a b c.

The *systematic connexion* is in Tab. X. Fig. 6. l. m m; where the left l crosses the right m m.

e The *thyreoarytaenoideus*. See Fig. 4. a a b c d e.

f g h *Thyreoepiglotticus major*.

g Its origin from the thyroide cartilage near the outer part of the upper portion of the thyreoarytenoideus; from whence it ascends first over the outer part of the said thyreoarytenoideus, and crossing its upper part it then goes up by the side of the glottis, and is inferted at h into the lateral edge of the epiglottis, adhering likewise to the extremity of the arytenoideus obliquus, inferted into the same margin of the epiglottis.

Add here Fig. 7. a a b c d d e f g.

The *systematic connexion* is in Tab. X. Fig. 6. f g; where it is partly covered by the second thyreoarytaenoideus c.

i The *less thyreoepiglotticus*, or depressor of the epiglottis.

k Its origin from the inner part of the thyroide cartilage near its middle.

l Its infertion into the lateral edge of the epiglottis, above its root.

The *systematic connexion* is in Tab. X. Fig. 6. i, where its extremity lies concealed behind the second thyreoarytaenoideus c.

The cartilages of the larynx in this and the four following figures may be explained by the 7th figure of Tab. X.

FIGURE IV.

The thyreoarytaenoideus, and cricoarytaenoideus posticus, laterally.

a a b c d e The *thyreoarytaenoideus*.

a a Its origin from the lower part of the internal side of the thyroide cartilage near its middle.

b Its other origin from the ligament by which the cricoide and thyroide cartilages are tied together in their fore part.

c The outer part which ascends higher.

d The part which going under the former crosses it and lies more transversely. Most of it lies under the said outer part.

e The end inferted into the outer part of the anterior edge of the arytae-

noide cartilage, above its basis, and so above the end of the cricoarytenoideus lateralis, b Fig. 5.

Add here Fig. 3. e.

The *systematic connexion* is in Tab. X. Fig. 6. e; where part of it is covered by the thyreoepiglotticus major f g, and the second thyreoarytaenoideus c.

f f g The *cricoarytaenoideus posticus*.

f f Its origin from the cricoide cartilage.

g Its extremity inferted into the end of the tubercle, that rises up in the back part of the external side of the basis of the arytaenoide cartilage.

Add here Fig. 2. d d d e.

The *systematic connexion* is in Tab. X. Fig. 6. a. And in Fig. 5. *δ*; where the greater part lies concealed behind the thyroide cartilage *α*, and behind the membrane of the pharynx. So also what appears naked of it in Fig. 4. *δ*, lies concealed in Fig. 3. behind the lower constrictor of the pharynx *z δ*.

FIGURE V.

The cricoarytaenoideus lateralis.

a a Its origin from the upper edge of the outer side of the cricoide cartilage, on one side, just beneath the arytaenoide cartilage.

b Its end inferted into the basis of the arytaenoide cartilage, on one side, just before the end of the cricoarytaenoideus posticus, g Fig. 4.

The *systematic connexion* is in Tab. X. Fig. 6. b;

FIGURE VI.

The second or less thyreoarytaenoideus.

a Its origin from the inner and upper part of the thyroide cartilage, not far from its hart-like fissure

c Its extremity inferted into the arytaenoide cartilage just above the cricoarytaenoideus lateralis, b Fig. 5.

Add here Fig. 7. h i.

The *systematic connexion* is in Tab. X. Fig. 6. c d.

d The left wing of the thyroide cartilage, cut off at c.

FIGURE VII.

The greater thyreoepiglotticus, and second thyreoarytaenoideus.

a a b c The *thyreoepiglotticus major* as we sometimes find it.

b Its origin from the thyroide cartilage, near the upper and outer part of the upper origin of the thyreoarytaenoideus; from whence it ascends first along by the outer side of the said thyreoarytaenoideus, by the side of the glottis to the epiglottis.

c The fasciculus or portion that passes thro' the second thyreoarytaenoideus h, while the rest goes behind it.

d d e The accessory portion, arising at d from the outer part of the upper edge of the cricoide cartilage, on one side.

f The common end inferted at g into the edge of the epiglottis.

Add here Fig. 3. f g h.

h The *second thyreoarytaenoideus*, cut from its origin at i. See Fig. 6. a c.

OF THE UVULA.

FIGURE VIII.

The azygus or single muscle of the uvula, viewed in its upper and posterior part.

a The origin which is first thin tendinous and interwove with the tendinous membrane d d, and with the tendinous ends of the elevators of the palate, close by the future or meeting of the palate bones, so as seemingly to arise from thence.

b From thence it runs thro' the middle of the soft palate e e, and thro' the length of the uvula c.

The *systematic connexion* is in Tab. X. Fig. 13. m.

d d The tendinous membrane which coming out of the nostrils runs thro' the upper part of the soft palate under its skin or covering, which is here in a manner represented as cut off by the circumference of this membrane. See Tab. X. Fig. 14. m.

e e The soft or moveable palate.

f The uvula.

g g The posterior arches which descend from the soft palate thro' the sides of the fauces.

The rest may be known from Fig. 27.

MUSCLES OF THE SOFT PALATE.

Add here the *Palatopharyngeus* Fig. 27. h, &c. Fig. 28. f, &c. Fig. 29. a, &c. and Fig. 11. f g.

FIGURE IX.

The elevator and circumflex muscles of the soft palate viewed on the lower side with the soft palate, uvula, entrance into the nostrils, and the Eustachian tubes.

a b c d e f The *elevator of the soft palate*.

[u]

T W E L F T H M U S C L A R T A B L E.

a The tendinous beginning by which it arises from the end of the os petrosum, where it is perforated by the Eustachian tube; and from the lower side of the end of the said tube, immediately under that part of it which is all the way soft or cartilaginous.

b Its course to the palate, into which at c it spreads more and more, to

d Its insertion along the middle of the palate, almost from the posterior edge of the palate bones to the root of the uvula, where the right and left are continued one to the other. See Tab. X. Fig. 14. k.

e The lower part, forming a separate portion.

f The part which is connected by a thin tendinous end to the tendinous membrane, that is extended above upon the soft palate, coming from the nostrils; and with that membrane seems to be inserted into the middle and posterior edge of the palate bones. See Tab. X. Fig. 14. i.

The systematic connexion of its posterior side is seen in Tab. X. Fig. 14. g h i k l. Then in Fig. 13. g h i; where part lies behind the palatopharyngeus q, and the rest under the palatopharyngeus n. Then in Fig. 12. where a small part w appears at the side of the membrane of the pharynx. See also Fig. 11. b; Fig. 10. i; and Fig. 9. k. Laterally, Tab. X. Fig. 5, and Fig. 4. b, and Fig. 3. b; where part lies concealed behind the upper constrictor of the pharynx q; and Fig. 2. g.

g h i k. g h i k l The circumflex muscles of the palate.

h The origin from the end of the os petrosum, near the outer side of the elevator of the soft palate.

i Its broad tendon spread thro' the beginning of the soft palate, and inserted at k into the posterior lunar edge of the palate bones.

l The place where the broad tendons, right and left meet and conjoin together.

Add here Fig. 10.

The systematic connexion of this circumflex muscle appears in its posterior part in Tab. X. Fig. 16. i--n. Then in Fig. 15. h i k; where the part in the palate is covered by the tendinous membrane n, which coming out of the nostrils, goes thro' the upper part of the soft palate: covered also by the beginning of the palatopharyngeus q, and upper constrictor of the pharynx o. Then in Fig. 14. n; where again the greater part is covered by the elevator of the soft plate g. See it also in Fig. 13. k; and Fig. 12. x, at the side of the membrane of the pharynx: in Fig. 11. c; and in Fig. 10. k; where it lies hid also behind the upper constrictor of the pharynx b: and in the same manner it appears in Fig. 9. l, and Fig. 8. t.

Laterally it is seen in Tab. X. Fig. 5. a, and Fig. 4. a, Fig. 3. a, and Fig. 2. f.

m m The upper membrane of the soft palate.

n The uvula.

oooo The circumference round which the membrane of the fauces is cut off.

p The opening of the fauces into the nostrils.

q The Eustachian tube: which appears also in the other side.

r The membranous part of the Eustachian tube.

u The end of the os petrosum where it is perforated by the said Eustachian tube; from whence at v in the right side, the tube r is continued. It is marked o in Fig. 10.

The other bones of the head are the same as explained in the tables of the bones.

FIGURE X.

The circumflexus of the palate viewed in its lower part.

a The tendinous beginning arising from the end of the os petrosum b, where the same is perforated by the Eustachian tube; and from the lower part of the end of the said tube, just on the outer side of that part of it which is wholly soft or membranous; and arising in the same manner with respect to the beginning of the elevator of the soft palate. See Fig. 9. h.

a c From thence in its upper part the said tendinous beginning runs along the edge of the muscle to c. This tendinous excursion of its origin was observed broader along the outer side of the muscle, and adhered to a certain thin narrow and tendinous ligament, that was extended from the first rise of the muscle along the internal root of the acute eminence in the multiform bone, which is behind the hole for the exit of the third branch of the fifth pair of nerves; and so was continued along the inner side of the said oblong eminence that stands out from the multiform bone betwixt the said hole and the os petrosum.

d Its anterior beginning arising at e from the inner protuberant side of the oblong sinus (p Fig. 15.) which is impressed in the root of the internal pterygoide process of the multiform bone, in its outer side, q Fig. 15.

f The tendinous beginning of the other portion or lamella, adhering to the upper part of the outer side of the Eustachian tube, where that is of a cartilaginous nature; from whence the part g g is cut off.

h The common fleshy belly.

i The beginning of the tendon which it forms, and which being broad at i, afterwards is drawn up into a narrow compass, when it bends itself round and behind the hook k, of the pterygoide process of the multiform bone.

l After this inflexion it expands at l thro' the beginning of the soft palate in form of an aponeurosis, and is inserted at m, into the posterior semilunar edge of the palate bone, as far as the palatine future; and there at last it joins with its fellow, l Fig. 9, from whence it is cut off at n.

Part of this muscle which is seen inserted by a tendinous end into the lower part of the pterygoide process, at the outer side of the root of its little hook, is not here expressed; as it may possibly be an exception from the general design of nature.

Add here Fig. 9. g--l.

o The end of the os petrosum, where it is perforated by the Eustachian tube. See Fig. 9. v.

FIGURE XI.

The constrictors of the isthmus of the fauces, with the palatopharyngei, a fore-view.

a b c d e The constrictor of the isthmus of the fauces.

a The place where it ascends, from the upper part of the edge of the tongue, round its root.

b Its course from the tongue to the palate, before the tonsil, and thro' the arch which is seated in the fauces by the side of the tongue, and belongs to the soft palate.

c Its course thro' the soft palate.

d The meeting of the right and left, from whence small portions run out into the uvula, e.

The systematic connexion is in Tab. X. Fig. 17. f g. Laterally in Tab. X. Fig. 5. g; Fig. 4. l; and Fig. 3. c; where the greater part lies hid behind the upper constrictor of the pharynx s: and the same in Fig. 2. i.

f g The palatopharyngeus, that part of it which runs thro' the soft palate above the constrictor of the isthmus, under part of the elevator of the soft palate. f the part which is laid bare before the said constrictor. g the part that is naked behind it.

Add here Fig. 27. h, &c. Fig. 28. f, &c. Fig. 29. and Fig. 30. d, &c.

The systematic connexion is in Tab. X. Fig. 17. k l; where (as here) a great part is covered by the constrictor of the isthmus of the fauces g.

From which last cited figure the rest of this may be understood.

MUSCLES OF THE LOWER JAW.

FIGURE XII.

The temporalis in its fore part.

a b b c d d The first beginning of its origination, coming at a from the upper process of the os jugale; at b b c from the eminence that is in the side of the os frontis, and in the parietal bone c; at d d from the temporal bone.

e The tendon.

f g h Its insertion, at f into the top of the coronoid process of the lower jaw, its posterior edge g, and its anterior edge h going from thence into the point: and the other tip of the tendon which is longer and thicker, is fixed into the eminence k, which the coronoid process forms at the inner and fore side of its root. Near

m n The posterior and lower part of the tendon, bends itself round the hollow root of the zygomatic process in its descent under the os jugale to the lower jaw.

Add here Fig. 13. and 14.

The systematic connexion is in Tab. II. i, &c. in the head; where it passes under the os jugale, lying under and behind the masseter o r. In Tab. I. it also lies under the aponeurosis epicranii a in the head; and with that under the attollens auriculæ Γ Δ, the anterior of ditto Z, the frontalis b d, and the orbicularis of the eye-lids m n.

l l Part of the os jugale cut off. m its process cut off which meets with the zygomatic process of the temporal bone, which is also cut off at n.

FIGURE XIII.

The temporalis in its back part.

a a a b The first beginning of its origination from the eminence of the parietal bone a a a, and mammillary eminence b.

The rest of its origination from the breadth of the side of the skull, which is made up by the superior process of the os jugale, of the lower side of the os frontis, by the parietal bone and os squamosum, by the largest process of the multiform bone, and the eminences which are in the lower part of its side, could not be represented in these figures, as those parts from whence it arises lie underneath the muscle.

Outwardly part of it arises or descends from the tendinous membrane which covers it, and which is here removed.

c The tendon.

Add here Fig. 12. and 14.

The systematic connexion of this part is in Tab. VI. A &c. in the head; where it passes under the os jugale, and then goes behind the masseter E G. In Tab. V. it also lies under the aponeurosis of the epicranium d d, and with that under the attollens f g, and the anterior muscle k, of the external ear.

FIGURE XIV.

The insertion of the temporalis in the inner side of the jaw.

a Denotes a thin tendinous part of its end, inserted into the posterior edge of the root of the coronoid process of the lower jaw.

b b The insertion of a fleshy part into the whole inner side of the root of the coronoid process.

c The thicker point of the tendon, inserted at d into the eminence which is in the fore part of the root of the coronoid process.

e The thinner point of the tendon.

Add here Fig. 12. and 13.

f The inner side of the left half of the lower jaw.

FIGURE XV.

The pterygoideus internus and externus view'd from below.

a The pterygoideus internus.

b Its origination by a tendinous beginning from the bottom of the cavity in the pterygoide process of the multiform bone; also arising from little less than the whole surface of the inner side of the outer plate or wing of the said process.

c Part of the origination from the lower side of the palate bone, where that is inserted betwixt the opening of the pterygoide process. From thence it has a tendinous beginning: and near the same place it also arises at d from the upper jaw bone.

e The tendinous end which is inserted into the lower and inner side of that part of the mandible which ascends to the head, even as far as its lower angle f f. Add here Fig. 17.

g The pterygoideus externus.

h Its origination from almost the whole outer side of this outer plate of the pterygoide process.

i Its origin from the lower part of the edge of the said plate, that looks towards the pterygoide excavation.

k Its origination from the lower margin of the said plate.

l The place where it arises from the outer part of the pterygoide portion of the palate bone, and from the farthest part of the upper jaw.

k l The tendinous part of its beginning.

m A part which comes from the lower part of the multiform bone, and from the outer side of the root of the pterygoide process.

T W E L F T H M U S C U L A R T A B L E.

n n o The tendinous end inserted at n n into the neck of the lower jaw, where the same becomes hollow on the inner side of its fore part, immediately after its round head: also to the anterior and inner edge of the cartilaginous plate o, that is interposed betwixt the articulation of the lower jaw.

Add here Fig. 16.

p The protuberance of the inner plate of the oblong sinus, that is impressed at q in the root of the inner side of the pterygoide process of the multiform bone, in its outer part. From which protuberant plate arises the circumflexus of the palate, e Fig. 10.

The remaining bones of the head here are the same, as explained in our tables of the bones.

F I G U R E X V I.

The pterygoideus externus, in its outer or fore part.

a Its lower part.

b c Its origin behind the jaw from almost the whole external surface of the outer plate of the pterygoide process: and below near c, from the outer part of the pterygoide portion of the palate bone, and extremity of the upper jaw.

d The tendinous part.

e The extremity inserted into the neck of the lower jaw, where it has an excavation in the inner part of its anterior edge just below its head.

f The upper part, whose fibres meet in an acute angle with those of the lower part.

g g Its origin from the lower part of the multiform bone, near the outer side of the root of the pterygoide process.

h The extremity that is inserted above the lower part of the mandible.

Add here Fig. 15. g--o.

The *systematic connexion* is in Tab. III. e e in the head, where it in part lies hid behind the buccinator v, the upper jaw and os jugale, also behind the zygomatic process, and the coronoide process of the lower jaw, about which it passes behind the insertion of the temporalis. Then in Tab. II. A in the head; where also it lies hid behind the upper jaw, the os jugale, and the buccinator z: also behind the masseter r.

Laterally in Tab. X. Fig. 1. a, where it is partly covered by the pterygoideus internus b, and in part lies behind the lower jaw.

i The os jugale here cut off, k the upper jaw cut off, l the zygomatic process of the temporal bone here cut off, m the coronoide process of the lower jaw-bone here cut off, which intermediate bones are cut out, that the muscle may come into view.

n The largest lateral process of the multiform bone.

o The upper jaw bone.

F I G U R E X V I I.

The pterygoideus internus in its fore part.

a a Here its origination lies behind, in a cavity of the pterygoide process of the multiform bone.

b The tendinous end which at c c begins to insert itself into the lower portion of the inner side of that part of the lower jaw, which rises up to the head; where its insertion is extended as far as the lower angle. See f f Fig. 15.

Add here Fig. 15. a--f.

The *systematic connexion* is in Tab. IV. r in the head; where (as here) at its origination it lies behind the pterygoide process, and also behind the lower jaw, upon which it descends behind the extremity of the temporalis. Then in Tab. III. ζ in the head; where it also lies behind the buccinator v, and is covered by the external pterygoideus ε. And what part appears naked in Tab. III. in Tab. II. lies behind the masseter r in the head.

Posteriorly it is seen in Tab. VII. c in the head; where it likewise is hid behind the mammillary process, and the trachelomastoideus z B in the neck. Then in Tab. VI. I in the head, where it lies hid behind the splenius capitis P in the neck. Next in Tab. V. g in the head; where it is in part covered by the latissimus colli t, behind the sternomastoideus u in the neck, and behind the outer ear.

Laterally Tab. X. Fig. 1. b c, it lies hid at its origin behind the mastoide process. In Tab. IX. i x in the head, it is partly covered by the latissimus colli π ξ; and in part it lies hid behind the sternomastoideus g in the neck, and in part behind the outer ear.

d d d A portion of the lower jaw cut off, to shew the muscle that is seated behind it.

F I G U R E X V I I I.

The biventer of the lower jaw, view'd laterally.

a The first belly.

b The middle tendon.

c The second belly, inserted at d into the back part of the lower edge of the mandible, near the middle of the chin.

Add here Fig. 19.

The *systematic connexion* appears in Tab. X. Fig. 1. g h i i; where its origination (as here) is hid behind the mammillary process; and is partly covered by the stylohyoideus e f. In Tab. IX. it is wholly covered by the latissimus colli μ in the neck, by the sternocleidomastoideus g in the neck, by the splenius capitis v, the stylohyoideus λ, &c.

Anteriorly it appears in Tab. II. y P in the head; where in part it lies hid behind the lower jaw, and in part is covered by the sternocleidomastoideus λ in the neck, and partly by the stylohyoideus R. Then in Tab. I. Σ in the head; where it is likewise hid behind the lower jaw, covered by the sternocleidomastoideus Φ in the neck, and goes behind the outer ear: and below (where it is naked in Tab. II.) it is covered by the latissimus colli Ω.

Posteriorly it is seen in Tab. VI. L in the head, where it is concealed behind the splenius capitis P in the neck, and elevator of the scapula Z. And what is here naked, in Tab. V. lies behind the sternocleidomastoideus u in the neck.

F I G U R E X I X.

The biventer of the mandible viewed from below.

a Its first belly, b the tendinous origin of it from an incisure c c, that divides the root of the mastoide process of the temporal bone on its inner side; and principally from the inner and lower edge of it.

d The middle tendon.

e The second belly inserted by a tendinous end f into the back part of the lower edge of the mandible g g, near the middle of the chin.

h The aponeurosis that comes out from the lower side of the tendinous insertion f, and from the tendinous beginning of the second belly, and afterwards fixes itself at i into the fore part of the basis of the os hyoides, near the lateral part of its lower edge, betwixt the ends of the mylohyoideus, sternohyoides, and coracohyoides.

Add here Fig. 18.

The bones here may be understood from the tables of the bones.

F I G U R E X X.

The masseter, in its fore part.

a The outer and larger part.

b The tendinous part of its origin externally.

c Its origin from the anterior and lower part of the external process of the upper jaw that joins the os jugale; from whence it is continued all along externally from the lower edge of the os jugale, where it forms part of the zygomatic process, ceasing its origination a little before the lower part of the zygomatic future.

e f The tendinous end inserted into the surface of the outer part of the side of the lower jaw, even as far as the extreme angle g.

h The inner and less portion of this muscle, where it lies uncovered.

i The origin of this portion from the lower edge of the os jugale, near the zygomatic process of the temporal bone: and at k it arises from the lower margin of the zygomatic process, as far as the tubercle that stands out for the articulation of the lower jaw.

l A portion that goes off above the os jugale from the inner part of the tendinous membrane, that covers the temporalis externally, and is fixed to the os jugale; from which membrane this portion is cut off.

Add here Fig. 21. and 22.

The *systematic connexion* appears in Tab. II. o--x in the head. Then in Tab. I. V W X Y in the head; where it is in part covered by the zygomaticus major E, and the latissimus colli γ γ.

F I G U R E X X I.

The interior and less portion of the masseter, in its fore part.

a a b Its origin from the whole length of the os jugale: a a from the bottom part of the lower margin of the os jugale, all the way as it extends to the zygomatic process of the temporal bone; and from that process itself of the temporal bone at b, as far as the tubercle that stands out for the articulation of the lower jaw.

c A tendinous part of its origin.

d The tendinous end inserted into the external side of the coronoide process, from the top to the bottom of it; and also into the next adjacent part of the lower jaw below the root of the said process, e e e.

f The portion that goes off above the os jugale from the inner part of the tendinous membrane, that covers the temporalis externally, and is fixed to the os jugale: from which membrane, here removed, this portion of the masseter is cut off.

Its origin from the inner side of the os jugale cannot be perceived in the figure.

Add here Fig. 20. and 22.

F I G U R E X X I I.

The masseter view'd in its back part.

a The outer and larger part, inserted at the inferior angle of the lower jaw b b.

c d The inner and less portion. c the outer part that lies uncovered. d the inner part.

e Its origin from the zygomatic process of the temporal bone.

Add here Fig. 20. and 21.

The *systematic connexion* appears in Tab. VI. E F G H in the head. Then in Tab. V. p q in the head; where part of it is covered by the latissimus colli t, part by the greater zygomaticus r, and part lies hid behind the external ear.

Laterally it appears in Tab. IX. δ--θ in the head; where it is partly covered by the latissimus colli ξ o, and in part by the greater zygomaticus y z.

M U S C L E S O F T H E P H A R Y N X.

Add here the *palatopharyngeus* Fig. 11. f g.

F I G U R E X X I I I.

The lower, middle, and upper constrictors of the pharynx, with the buccinator, view'd laterally.

a The lower constrictor of the pharynx.

b b c d The head which arises from the thyroide cartilage; and particularly b b from the outer part of the upper margin before the superior process; and from the adjacent tubercle that is at the root of the said process; also from the oblong eminence that is in the side of the thyroide cartilage. c from the lower margin of the cartilage that is before its lower process. d from the outer part of its lower process.

e e The head arising from the lower part of the external side of the cricoide cartilage near its back part, immediately below the lower thyroide process, which receives that of the cricoide cartilage.

Betwixt these two heads, near d, it receives a portion from the cricothyroideus, d d Fig. 47. Tab. XI.

Add here Fig. 24. a.

The *systematic connexion* is seen in Tab. X. Fig. 3. z. and Fig. 2. δ. Then in Fig. 1 β; where part of its origin lies under the hyothyroideis q.

Anteriorly it is seen in Tab. III. ω in the neck; where it is partly covered by the hyothyroideus τ, and part of it lies hid behind the sternothyroideus π. Then in Tab. II. X in the neck; where it is partly likewise covered by the hyothyroideus Y, and also lies hid behind the sternocleidomastoideus λ. But what appears naked in Tab. II. lies hid in Tab. I. behind the latissimus colli Ω in the neck.

[x]

T W E L F T H M U S C U L A R T A B L E.

f The middle constrictor of the pharynx.
 g One of the heads which is the broadest, arising from the upper and outer part of the end of the horn of the os hyoides.
 h The other head arising from the small grain-like bone of the os hyoides.
 Add here Fig. 24. i. and Fig. 25.
 The systematic connexion is in Tab. X. Fig. 3. w x y; where (as here) its lower part is covered by the lower constrictor δ , and also by the origin of the ceratoglossus n, and basioglossus o. Then in Fig. I. $\delta \epsilon \zeta$; where also its lower part is covered by the lower constrictor β , and by the origin of the ceratoglossus m, the basioglossus l, and the biventer g of the lower jaw.
 i The upper constrictor of the pharynx.
 k The uppermost part, which comes out from the superior part of the posterior edge of the tendon of the circumflexus of the palate, where that passes from behind the hook into the palate. See its origin Tab. X. Fig. 15. o.
 l The part that arises from the inner side of the whole length of the hook of the pterygoide process of the multiform bone, and from the inner plate of the said process, at the root of the little hook.
 m The part that is joined to the middle origin of the buccinator.
 n The part that arises from the inner side of the lower jaw, near the upper edge of the socket of the last grinding tooth: from whence it is cut off.
 o The very thin part that arises from the side of the root of the tongue, where the styloglossus first meets the ceratoglossus.
 p The part that comes from the fibres of the genioglossus, which are incurvated round the side of the pharynx.
 Add here Fig. 24. l. and Fig. 26.
 The systematic connexion is in Tab. X. Fig. 3. p q r s t u n; where (as here) it is in part covered by the middle constrictor w. Then in Fig. 2. y y z, where in like manner it is partly covered by the middle constrictor α ; and it also lies hid behind the stylopharyngeus w, and the styloglossus k. Then in Fig. 1. n; where also it is in part covered by the middle constrictor δ , and lies hid behind the biventer of the lower jaw g.
 q The buccinator.
 r Its origination from the outer part of the end of the hook of the pterygoide process of the multiform bone.
 s The origin from the bottom of the space, that is betwixt the hook and outer plate of the said process.
 t The part where it arises from the outer side of the upper jaw, immediately above the gums, behind the innermost grinding tooth.
 u The part which arises from the outer side of the lower jaw, from an oblong ridge sent out for that purpose, betwixt the innermost grinder and the root of the coronoide process, from whence it is here cut off.
 m The intermediate part of this muscle, that is continued to the upper constrictor of the pharynx.
 Add here Tab. XI. Fig. 14. a--e. and Fig. 13. k k.
 The systematic connexion is seen in Tab. IX. γ in the head; where it is covered by the zygomaticus major y, the masseter δ , and the latissimus colli ξ o.
 v The tongue. See Tab. XI. Fig. 41.
 w The styloglossus, here cut off at x. See Tab. XI. Fig. 41. f.
 y The lingualis. See Tab. XI. Fig. 41. e.
 z The ceratoglossus and basioglossus cut off. See Tab. XI. Fig. 41. betwixt f b e.
 α The genioglossus, arising at $\beta \beta$ from the rough eminence that is in the inner side of the lower jaw near its symphysis. γ thin fibres incurvated round the side of the pharynx, some of which ascend at δ to the ceratoglossus and styloglossus, others vanish at ϵ in the membrane of the pharynx, and others march at p to the upper constrictor of the pharynx. See Tab. XI. Fig. 41. c d, and Fig. 42.
 ζ The lower jaw, cut off at n n.
 The rest may be known from Fig. 2. Tab. X.

FIGURE XXIV.

The upper, middle, and lower constrictors of the pharynx, in their back part.

a a The lower constrictor of the pharynx.
 b b The origination from the cricoide cartilage.
 c The point in which they terminate above.
 c--d The course in which the fibres meet in angles, more acute as they ascend higher.
 e The part where the right and left fibres are continued one into the other in curves.
 Add here Fig. 23. a.
 The systematic connexion is in Tab. X. Fig. 8. a b a b c d e.
 f The inner fibres of the gula, which are transverse, laid bare in this place.
 g g The outer fibres which descend obliquely backward on each side.
 h The gula or oesophagus cut off.
 The systematic connexion of this part is in Tab. X. Fig. 8. f g g.
 i i The middle constrictors of the pharynx, a great part of which lies under the lower a a c.
 k The point in which they terminate above; and which in many bodies is found thin, tendinous and inserted into the lower part of the occipital bone, before its great foramen.
 Add here Fig. 25. and Fig. 23. f g h.
 The systematic connexion appears in Tab. X. Fig. 9. a. a b c. Then in Fig. 8. n. n o; where (as here) a great part lies under the lower constrictors a a c.
 l l The upper constrictors of the pharynx, of which a great part lies under the middle constrictors i. i k.
 m m Parts which arise from the lower jaw at n n, near the innermost of the grinding teeth.
 o o The parts cut off from the buccinators.
 See Fig. 26. and add Fig. 23. i--p.
 The systematic connexion appears in Tab. X. Fig. 10. a--g. a--g; where they in part lie behind the stylopharyngei o p. o p. Then in Fig. 9. d e f. d e f; where they are also behind the stylopharyngei r q. r q; and a great part of them (as here) lies behind the middle constrictors a a. The same also appear

in Fig. 8. p q r. p q r; a great part being there under the middle constrictors n n o; and the stylopharyngei v w. v w.

p p The inner grinding teeth.

The rest may be known, upon occasion, from Tab. X. Fig. 8.

FIGURE XXV.

The middle constrictors of the pharynx, in their back part.

a The upper point in which they meet.
 b The lower point.
 Betwixt which points the fibres meet in angles, pointing upwards from c to a; and more acute as they rise higher, till they become direct at c c; from whence they descend and meet in angles that are more acute as they go lower.
 Add here Fig. 24. i i k. and Fig. 23. f g h.
 c c The ends of the horns of the os hyoides.

FIGURE XXVI.

The upper constrictors of the pharynx in their back part.

a The lower part which transverses the upper b.
 c The part which arises at d from the inner side of the lower jaw, near the innermost grinding tooth.
 e The portion that is cut off from the buccinator.
 f The point in which the right and left portions meet together above.
 Betwixt f and g their fibres meet in obtuse angles.
 Add here Fig. 24. l m n o. l m n o. and Fig. 23. i, &c.
 h h The innermost of the lower grinding teeth.

FIGURE XXVII.

The stylopharyngei, palatopharyngei, and salpingopharyngei.

a The stylopharyngeus.
 b The tendinous beginning arising at c from the inner, posterior, and upper part of the bony portion, that is joined to the styloide process of the temporal bone, and which is moveable in young skulls.
 d The superior and less portion of this muscle, which at l joins to the palatopharyngeus.
 e The lower and larger portion, of which the part f is inserted into the outer side of the edge of the thyroide cartilage, at the root of its upper process: and the part g is inserted into the subsequent portion of the edge of the said cartilage as far as the root of its lower process.
 Add here Fig. 28. a, &c. and Fig. 30. a, &c.
 The systematic connexion is seen in Tab. X. Fig. 11. f, &c. Then in Fig. 10. l &c. where it is in part covered by the upper constrictor of the pharynx a e e. Then in Fig. 9. o &c. where it is also in part covered by the upper constrictor d, and by the middle one a. And in the same manner it is seen in Fig. 8. u &c.
 h l The palatopharyngeus.
 h The part that is spread thro' the soft palate, above the elevators of the said palate.
 i Here it rises out, near the posterior edge of the palate bones, from the tendinous membrane that comes out of the nostrils, and goes thro' the upper part of the soft palate.
 Thro' the middle of the soft palate, the right and left stylopharyngeus are continued one into the other, almost from the posterior edge of the palate bones to the root of the uvula.
 k The part, which at its origin lying under the elevator of the soft palate comes out from the aponeurosis of the circumflexus of the palate. See Fig. 29. b.
 l Here the muscle coming out from the soft palate, is incurvated thro' the side of the pharynx, and goes on thro' its back part till it joins with the stylopharyngeus d.
 Add here Fig. 28. f, &c. Fig. 29. and 30. d, &c. and Fig. 11. f g.
 The systematic connexion of the part that is in the pharynx appears in Tab. X. Fig. 11. e: and in Fig. 10. it lies behind the upper constrictor of the pharynx a. That of the portion in the palate appears in Tab. X. Fig. 13. n o p; where it lies partly hid behind the salpingopharyngeus q, and under the azygus of the uvula m.
 m The common end of the stylopharyngei and palatopharyngei, running thro' the posterior part of the membrane of the pharynx.
 n o The meeting of the right and left fibres together, thro' the middle of the length of the pharynx. p o p the place where they vanish in the back part of the membrane of the pharynx, and at p p are inserted into the thyroide cartilage.
 Add here Fig. 30. i.
 The systematic connexion appears in Tab. X. Fig. 11. o. Then in Fig. 10. t; where in its upper part it lies under the upper constrictor of the pharynx a. Then in Fig. 9. s; where it also lies under the middle constrictor a: and what there appears naked is in Fig. 8. covered by the lower constrictor a.
 q The salpingopharyngeus: which joins itself to the inner part of the palatopharyngeus.
 r Its origin from the lower and anterior part of the Eustachian tube, where that is of a cartilaginous texture, near its extremity.
 Add here Fig. 28. k l.
 The systematic connexion appears in Tab. X. Fig. 13. q.
 The pharynx is here laid open in its upper part, by cutting out all that lies betwixt the basis of the skull and the upper edge of the palatopharyngei.
 s s The place from whence the back part of the pharynx is cut off.
 t u v The Eustachian tube, as yet covered at t with the membrane that lines the fauces internally; of which it is laid bare at u, upon which part lay the elevator of the soft plate. v the orifice that opens at the side of the posterior foramen of the nostril.
 w The partition of the nostrils, covered with its mucous membrane.
 x x The cavity of the nostrils.
 y The lower os spongiosum, covered with the mucous membrane.
 z z The place from whence is cut off the membrane that lines the cavity of the nostrils internally.
 The foregoing parts are the same as in Fig. 15. Tab. X.
 $\alpha \alpha$ The tendinous membrane, which coming out of the nostrils, is spread over the upper side of the soft palate.

β The

T W E L F T H M U S C U L A R T A B L E.

- β The external side of the pterygoide process of the multiform bone, with its little hook γ, as in Tab. X. Fig. 16.
 δ The uvula as in Tab. X. Fig. 15.
 ε ε The thyroide cartilage.
 ζ The naked membrane of the lower part of the pharynx, to which part of the gula is continued; but is cut off at η.
 The foregoing parts are the same as in Tab. X. Fig. 10.
 θ The styloide process of the temporal bone, as in Fig. 9. Tab. X.

F I G U R E XXVIII.

The stylopharyngei, palatopharyngei, and salpingopharyngei.

The whole back part of the pharynx being cut off from the top, and longitudinally from each side and removed, the internal part that then appears is here represented, with the internal membrane or covering also taken off, as in Tab. X. Fig. 13. The cricoide and arytaenoide cartilages with their epiphyses or additaments are also removed here, as in Tab. X. Fig. 15.

- a b c d e The *stylopharyngeus*.
 b Its tendinous origin cut off at c from the styloide process of the temporal bone.
 d The upper and left part of the *stylopharyngeus*, e its larger and lower part. Add here Fig. 27. a, &c. and Fig. 30. a, &c.
 The *systematic connexion* appears in Tab. X. Fig. 13. r, &c. Fig. 14. p, &c. and Fig. 15. x, &c.
 f g h The *palatopharyngeus*.
 f The part that is spread thro' the soft palate above the elevator of the said palate: and which with its fellow is continued thro' the whole middle length of the palate.
 g The place where it goes off from the tendinous membrane that is detached from the nostrils, and spread over the upper side of the soft palate.
 h The part which at its origin lies under the elevator of the soft palate, and springs from the aponeurosis of the circumflexus palati. See Fig. 29. b.
 From i to i are cut off the portions of the palatopharyngei and stylopharyngei which run down the posterior membrane of the pharynx, l d e m Fig. 27. Add here Fig. 27. h, &c. Fig. 29. and Fig. 30. d, &c. and Fig. 11. f, g.
 The *systematic connexion* appears in Tab. X. Fig. 13. n o p: where, as here, it lies hid in part behind the salpingopharyngeus, and under the azygus uvulae m.
 k The *salpingopharyngeus*, which joins itself to the inner part of the palatopharyngeus.
 l Its origin from the anterior and lower part of the Eustachian tube, which is of a cartilaginous nature, near its extremity.
 Add here Fig. 27. q r.
 The *systematic connexion* appears in Tab. X. Fig. 13. q.
 m The common end of the palatopharyngeus and salpingopharyngeus, which descends thro' the side of the pharynx, is protuberant within the same, and forms the posterior arch that goes down from the soft palate thro' the side of the fauces.
 Add here Fig. 29. c.
 The *systematic connexion* appears in Tab. X. Fig. 13. w.
 n o Part of the common end of the stylopharyngeus and palatopharyngeus, springing from the stylopharyngeus: of which the part n runs inward upon the lateral ligament of the epiglottis to the lateral edge of the epiglottis: and the part o is inserted into the upper edge of the thyroide cartilage, betwixt its upper process and the epiglottis.
 Add here Fig. 29. e f.
 The *systematic connexion* appears in Tab. X. Fig. 13. x y. and Fig. 14. y z.
 p The uvula.
 q q The posterior edges of the soft palate.
 r r The tonsils.
 s The tongue.
 t The epiglottis.
 u The thyroide cartilage.
 The foregoing parts as in Tab. X. Fig. 15.
 The remaining parts of this figure are the same as those in Fig. 27.

F I G U R E XXIX.

The palatopharyngei.

We have removed those parts of them that are spread thro' the soft palate, above the elevators of the said palate, f g. f g Fig. 28. The salpingopharyngei, k k Fig. 28. are also here taken off.

- a The part that is spread thro' the soft palate under the end of the elevator of the said palate: and which continues itself with its fellow thro' the middle of the length of the palate.
 b b The place where it springs from the aponeurosis of the circumflexus of the soft palate.
 The *systematic connexion* is seen in Tab. X. Fig. 15. p, &c. Then in Fig. 14. w; where it is covered by the elevator of the soft palate k l.
 c The part which descends thro' the side of the pharynx, is protuberant within the same, and forms the posterior arch that goes down by the side of the fauces from the soft palate.
 The *systematic connexion* is seen in Tab. X. Fig. 15. t, and Fig. 14. x.
 From d to d are cut off the portions of the palatopharyngeus and stylopharyngeus, which run thro' the back part of the membrane of the pharynx, l d e m Fig. 27.
 e f Part of the common end of the stylopharyngeus and palatopharyngeus, produced from the stylopharyngeus: of which the part e runs inward upon the lateral ligament of the epiglottis to the lateral edge of the epiglottis: and the part f is inserted into the upper margin of the thyroide cartilage, betwixt its upper process and the epiglottis.
 The *systematic connexion* appears in Tab. X. Fig. 15. v w.

Add here Fig. 28. f g h i m n o: and Fig. 27. h i k l m: Fig. 30. d, &c. and Fig. 11. f g.
 The rest of this figure may be known in part from Fig. 27. and in part from Fig. 28.

F I G U R E XXX.

The stylopharyngeus and palatopharyngeus on one side.

- a The *stylopharyngeus* cut off at b. It is that marked a b, &c. in Fig. 27. and a b, &c. in Fig. 28.
 c The portion of it that joins itself to the upper part of the palatopharyngeus, d Fig. 27.
 The *systematic connexion* is seen in Tab. X. Fig. 4. d e. Then in Fig. 2. w; where it is partly cover'd by the middle constrictor of the pharynx β, and what there appears naked, in Fig. 1. lies under the biventer of the lower jaw g.
 d æ The *palatopharyngeus*, cut off at æ. It is that in Fig. 27. mark'd l.
 The *systematic connexion* appears in Tab. X. Fig. 4. f f; where (as here) it in part lies hid behind the stylopharyngeus d.
 e The common end of the stylopharyngeus and palatopharyngeus.
 f That part of the stylopharyngeus which is inserted into the upper edge of the thyroide cartilage, betwixt its upper process and the epiglottis. See Fig. 28. n o; and Fig. 29. e f.
 g h Portions of the stylopharyngeus inserted into the edge of the thyroide cartilage, the part g into the external side of its margin at the root of its upper process; the part h into the rest of the margin. They are those marked f. g Fig. 27.
 i Part vanishing below in the membrane of the pharynx, marked o p in Fig. 27.

The *systematic connexion* appears laterally in Tab. X. Fig. 4. g g h i k; where part lies hid behind the horn of the os hyoides w; part behind the ligament x, that goes from the end of the horn of the os hyoides to the upper process of the thyroide cartilage; and part (as here) behind the thyroide cartilage y z. Then in Fig. 3. betwixt x y, and at ε; where part also lies behind the horn θ of the os hyoides, its ligament ι, and the thyroide cartilage π: it is also there covered by the middle constrictor of the pharynx w x y, and the lower one z. Then in Fig. 2. it appears betwixt β and γ, and at x; where besides lying behind the hyoid horn v, and its ligament, with the middle constrictor of the pharynx α β γ, and the lower one δ, with the thyroide cartilage υ, it is also behind the ceratoglossus n. Then in Fig. 1. it appears betwixt ε and ζ, and at p; where in like manner it lies behind the hyoid horn n and its ligament, the middle constrictor δ ε ζ, the lower one β, and the thyroide cartilage; it moreover lies behind the hyothyroideus q r.

Anteriorly it appears in Tab. III. χ in the neck, where part of it appears naked betwixt the hyoid horn λ, its ligament ψ, the thyroide cartilage and the hyothyroideus τ, with the lower constrictor of the pharynx ω, behind all which it is also placed. So also it appears in Tab. II. w in the neck; placed also behind the same hyoid horn, and its ligament v, the thyroide cartilage, the hyothyroideus Y Z, and the lower constrictor X. And what part of it has appeared naked in the fore-mentioned tables, lies hid in Tab. I. behind the latissimus colli Ω in the neck.

- k The membrane of the pharynx, with the membrane of the gula that is continued to it.

MUSCLES OF THE ANUS, PENIS URETHRA AND ITS BULB, WITH THE END OF THE RECTUM, AND THE ANUS.

F I G U R E XXXI.

The elevators of the anus with the external sphincter, a posterior view.

- a a-k The *levator ani*, in some measure resembling the shape of a funnel, and besides the portions fixed to the os coccyx, they together form a sort of tape or swath that is principally wound about the intestinum rectum, but is also attached by its extremities to the sides of the pelvis, to the angles of the penis and the bulb of the urethra, as will be here pointed out. Besides surrounding the rectum intestinum, it also takes in the lower part of the bladder with the seminal vesicles and prostate gland; also the vagina in women.
 a a The anterior portions view'd on their inner side within the pelvis.
 b c d Their origin from the inner side of the os pubis, at b near the lower end of the synchondrosis, from whence (the part b c is fleshy, the part c d tendinous) it ascends backward round the beginning of the obturator internus.
 e The tendon which forms its upper edge, and arises in its highest part from the os pubis, and continues thro' the side of the pelvis, almost to the acute process of the ischium.
 f Its origination from the acute process of the ischium.
 g The posterior part seen in its outer side.
 h The place where it is inserted behind into the anterior edge of the last, and last but one of the bones of the coccyx.
 i i The tendinous ends that are continued to each other just below the coccyx, the fibres meeting together in angles that point upwards.
 k The place where its fleshy parts are continued.
 Add here Fig. 32. a--g. a--g: and Fig. 33. and 34.
 The *systematic connexion* appears in Tab. VI. e e in the lower part of the trunk; where they pass under the external sphincter of the anus f. Then in Tab. V. ε in the buttocks; where they also pass under the outer sphincter η of the anus, and are hid behind the largest glutei γ γ.
 l l The *internal sphincter of the anus*.
 Add here Fig. 32. l.
 The *systematic connexion* is not represented.
 m m The end of the intestinum rectum.

[y]

T W E L F T H M U S C U L A R T A B L E.

- n The anus.
o o The synchondrosis or cartilaginous juncture of the ossa pubis p p.

F I G U R E XXXII.

The elevators of the anus with its internal sphincter, seen from before.

- a--g. a--g The levatores ani.
a b c The origination from the inner side of the os pubis, the part a near the lower end of the synchondrosis; and from thence it is continued (partly fleshy a b, partly tendinous c) upward and backward round the origin of the obturator internus.
d The tendon that forms the upper edge of this muscle from the highest part of its origination at the os pubis thro' the side of the pelvis, almost to the acute process of the ischium.
e The thin portion that comes out from the angle f, where the head of the penis joins the spongy body of the urethra; it is also continued from along the upper part of the side of the bulb of the urethra, as far as g.
Add here Fig. 31. a--k. a--k: and Fig. 33. and 34.
The systematic connexion of this part of it is not to be seen, as it is covered by the erectors of the penis ζ ζ, Tab. IV. in the trunk; and by the transverse of the perinaeum ι ι.
h The bulb of the urethra, going into the spongy body of the urethra i.
k The urethra with its spongy body cut off.
l The internal sphincter of the anus.
Add here Fig. 31. l l.
m m The end of the intestinum rectum.
n The anus.
o o o o o o o o o o o o The places from whence portions of the ossa pubis are cut out, to view the elevators that lie behind.

F I G U R E XXXIII.

The left elevator of the anus view'd in its outer and lateral part.

- a The tendon that forms its upper edge from the highest part of its origin at the os pubis, along the side of the pelvis, almost to the acute process of the ischium.
b c d Its origination from the inner side of the os pubis, partly tendinous b c, and partly fleshy c d, where it passes round the origin of the obturator internus.
e The origin from the inner part of the acute process of the ischium.
f The thin portion that comes out of the angle of the ossa pubis, wherein the head of the penis joins with the spongy body of the urethra, and is thence continued laterally to the upper part of the bulb of the urethra.
g Its insertion into the anterior edge of the last but one, and the last h, of the bones of the coccyx.
i k The place where the fibres of one muscle are continuous with those of the other, below the coccyx.
Add here Fig. 34. and Fig. 31. a--k: and Fig. 32. a--g.
l l l The ischium cut off, m m m n the os pubis, n o o the tubercle of the ischium, which bone being cut out, the elevator comes into view.

F I G U R E XXXIV.

The right elevator of the anus, a lateral view of its inner side.

- a The tendon that forms its upper edge from the highest part of its origination at the os pubis, thro' the side of the pelvis, almost to the acute process of the ischium.
b c d Its origination from the inner side of the os pubis, (partly tendinous b c, and partly fleshy c d) whence it goes round the origin of the obturator internus.
e Its origin from the inner part of the acute process of the ischium.
f The thin portion that comes out of the angle, in which the head of the penis joins with the spongy body of the urethra; and ascends laterally to the upper part of the bulb of the urethra.
g Its insertion into the anterior edge of the last but one, and the last h, of the bones of the coccyx.
i k The place where they are continuous with each other below the coccyx, tendinous at i, and fleshy at k; from whence the left elevator is cut off.
Add here Fig. 33. and Fig. 31. a--k. and Fig. 32. a--g.
l The left os ischium; m the os pubis.

F I G U R E XXXV.

The external sphincter of the anus, seen in its back part.

- a The posterior tip by which it adheres to the extremity of the coccyx, to which, from the anus b, the fibres meet together from each side in angles that point upwards, and are more acute as they ascend higher.
Add here Fig. 36. a b c c.
The systematic connexion appears in Tab. VI. f in the lower part of the trunk. Then in Tab. V. n near the buttocks.

F I G U R E XXXVI.

The external sphincter of the anus, in its fore part.

- a The fibres which meet together from each side, so as to form angles, that point upwards; being more acute as they ascend higher, and more obtuse as they are lower.
b The tip or tail in which it ends, and at last vanishes in the perinaeum.
c c A portion that goes out above the forefaid tip, into a sort of triangular point that is attached to the lower part of the accelerators, where they are conjoined together.
Add here Fig. 35.
The systematic connexion appears in Tab. IV. θ in the trunk; where the tip or tail is hid by the declivity of a portion of the penis. Then in the same manner in the trunk of Tab. III. λ.

- d The bulb of the urethra, going into the spongy body of the urethra e.
f The urethra with its spongy body cut off.

F I G U R E XXXVII.

The accelerators, transversus, first and second of the perinaeum, and the erectors of the penis.

- a a b c c The accelerators investing the bulb of the urethra, where that is protuberant.
The one joins the other along the middle of the bulb b. And where they meet the fibres form angles, which are hardly to be perceived in the posterior fibres, that meet almost in a direct course: the anterior fibres form angles more acute as they are farther from the posterior ones.
c c The anterior tips or points by which they go off from the penis.
The rest of the origination, from the middle of the upper side of the urethra, is not to be seen in the figure.
The systematic connexion appears in Tab. IV. η η in the trunk; where it is partly covered by the external sphincter of the anus θ, partly by the transversus of the perinaeum ι ι; in part by the erectors of the penis ζ ζ: and part from the declivity of the portion of the penis is not to be seen. Then in Tab. III. μ in the trunk; where part is in like manner covered by the external sphincter λ, and part by the erector penis ν.
d The transversus of the perinaeum.
e The end that joins partly with the accelerator, partly with the external sphincter ani, and likewise usually joins with its fellow.
Add here Fig. 38.
The systematic connexion appears in Tab. IV. ι in the trunk, where it goes under the external sphincter of the anus θ.
f The second transversus of the perinaeum.
i This bending its extremity to the erector penis, arose betwixt that and the accelerator, in the angle in which the head of the penis joins the bulb of the urethra.
Add here Fig. 39.
k l m. k l m The erectors of the penis.
l The tendinous end inserted into the larger cavernous body of the penis at m m, beyond its head. But it is also inserted into the head of the penis, where that does not lie under the ossa pubis, almost all the way from the beginning of its said head; and beyond the head it is inserted as far as m m.
Add here Fig. 40.
The systematic connexion appears in Tab. IV. ζ ζ in the trunk; where its end is not to be seen for the declivity of the portion of the penis.
n n o The penis. n n the larger cavernous or spongy bodies. o the spongy body of the urethra. p the penis cut off.

F I G U R E XXXVIII.

The transversus of the perinaeum in its posterior part.

- a Its origin from the inner part of the tubercle of the ischium.
Add here Fig. 37. d e.
The systematic connexion is in Tab. IV. h in the lower part of the trunk; where its end goes under the external sphincter of the anus η, and lies hid behind the largest gluteus.

F I G U R E XXXIX.

The second transversus of the perinaeum in its back part.

- a Its origin from the inner part of the os pubis, near about the middle, betwixt the tubercle of the ischium, and synchondrosis of the os pubis.
Add here Fig. 37. f i.
The systematic connexion is in Tab. IV. g in the lower part of the trunk; where its end goes under the elevator e of the anus: and what is there naked, in Tab. V. lies hid behind the largest gluteus γ.

F I G U R E XL.

The erector of the penis in its back part.

- a The tendinous beginning which arises at b b from the inner side of the tubercle of the ischium, a little before its ends in the os pubis.
Add here Fig. 37. k l m.

M U S C L E S O F T H E B L A D D E R.

F I G U R E XLI.

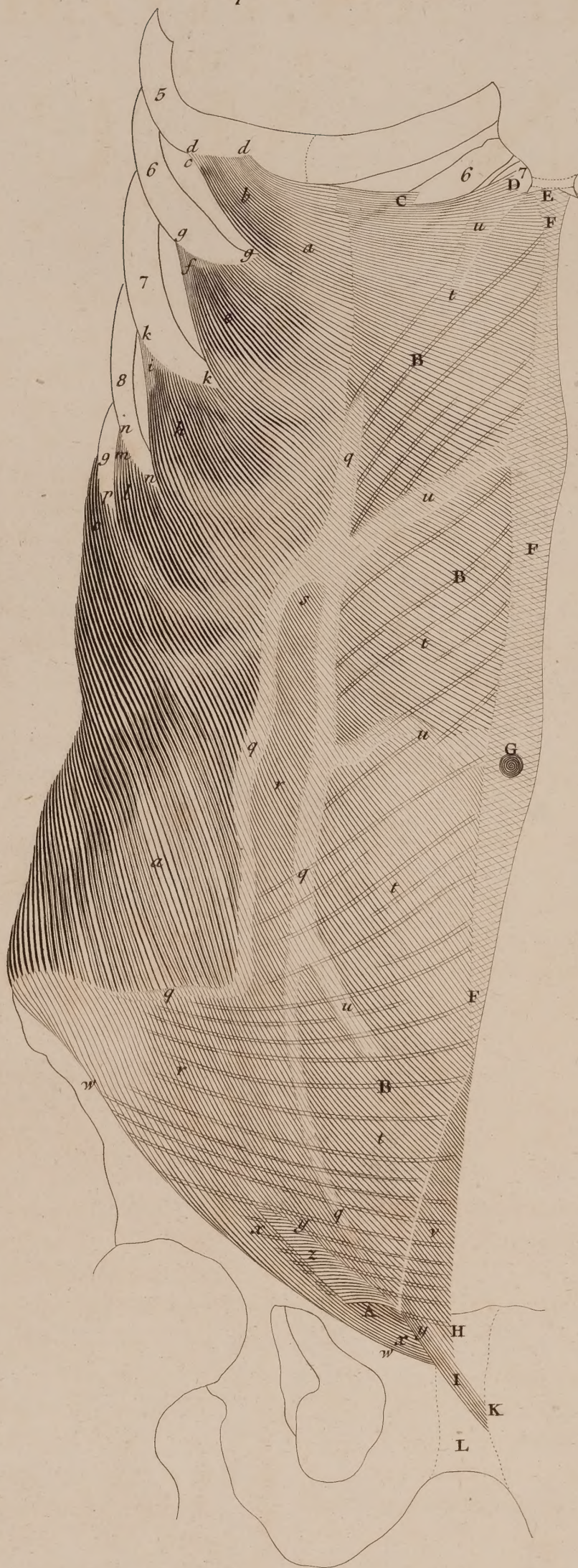
The muscle of the bladder, laterally.

- This muscle, altho' I have found it in but a very few bodies, I thought proper to exhibit here, on account of its elegance. Whether or no is it that which formerly seemed to belong to the prostate, call'd its compressor?
a That part which arose from the inner side of the os pubis, almost in the middle space betwixt the bottom edge of the synchondrosis and the uppermost part of the great foramen or hole, near the inner part of the origin of the elevator of the anus.
b Its incurvation round the side of the bladder, gradually expanding itself a little above the prostate, till at
c c It at last becomes exceeding thin, and continues itself with the fibres of the bladder, or rather goes into them.
d The bladder.
e The prostate.
ff The place from whence the left os pubis is cut off, and taken away with the rest of the os innominatum, in order to expose this muscle with the bladder and prostate to the view.

I.
Obliquus externus abdominis.



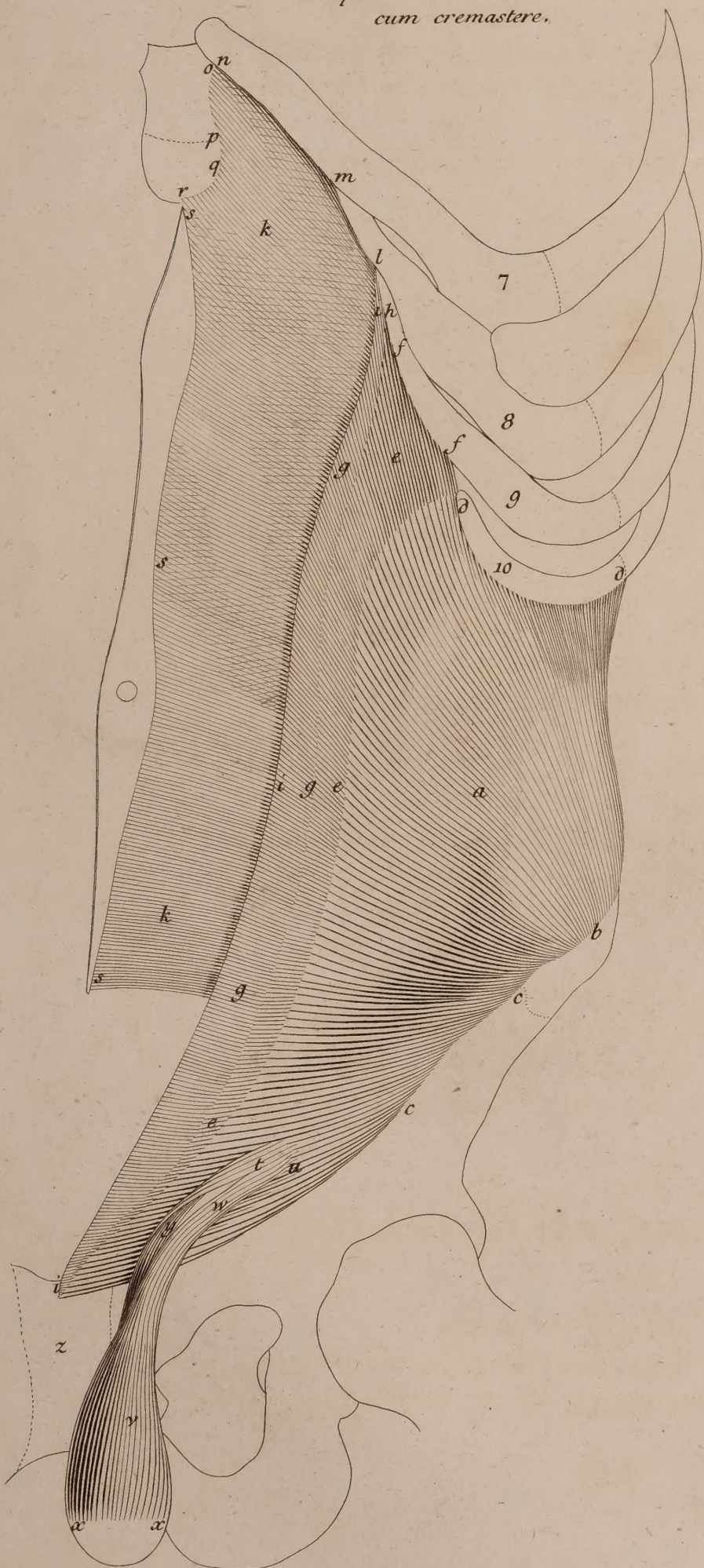
II.
Obliquus externus abdominis.



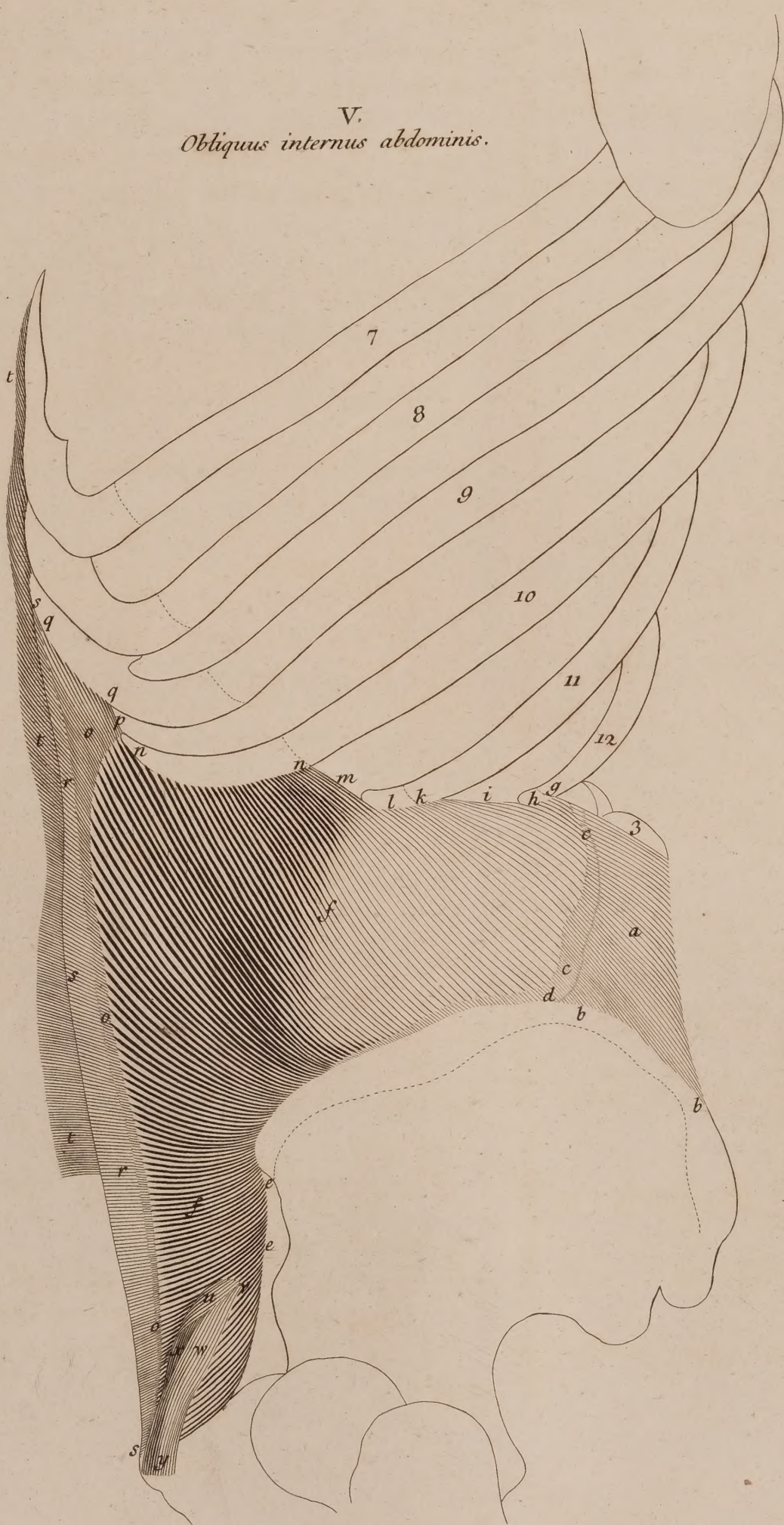
III.
Obliquus internus abdominis.



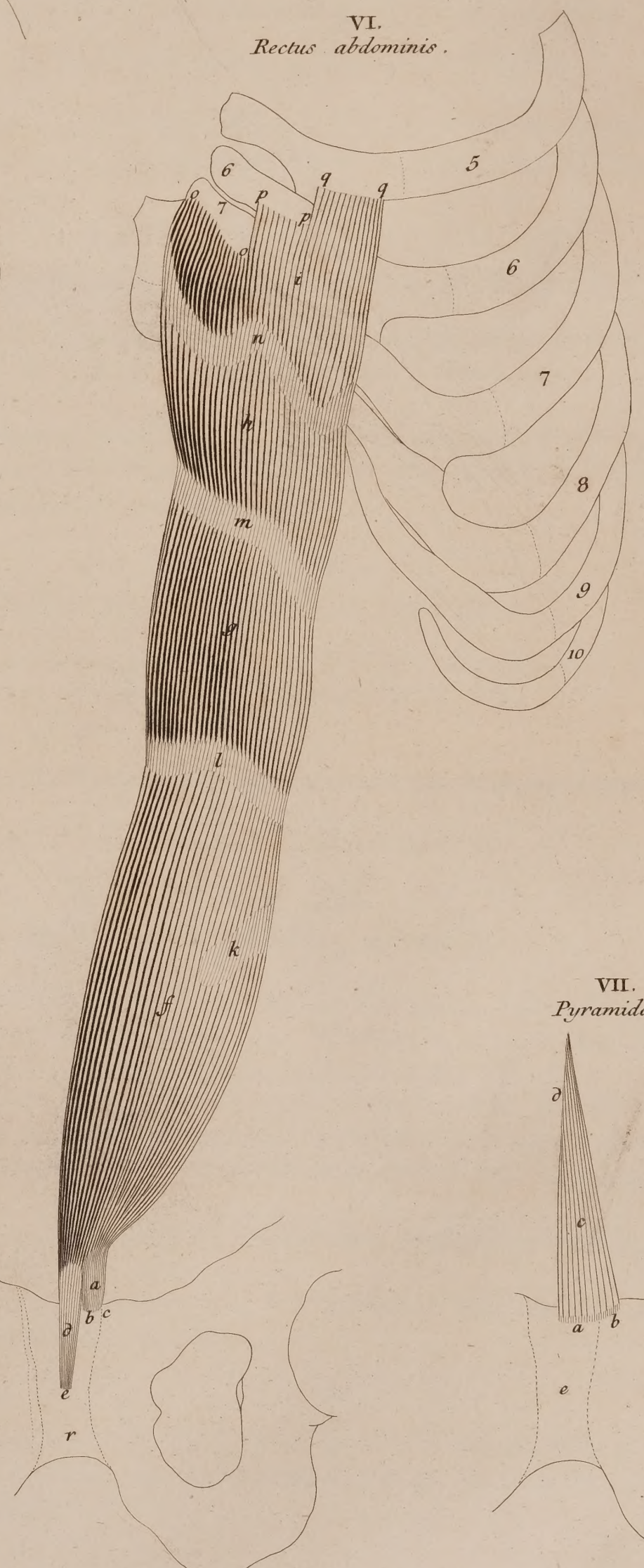
IV.
*Obliquus internus abdominis.
cum cremastere.*



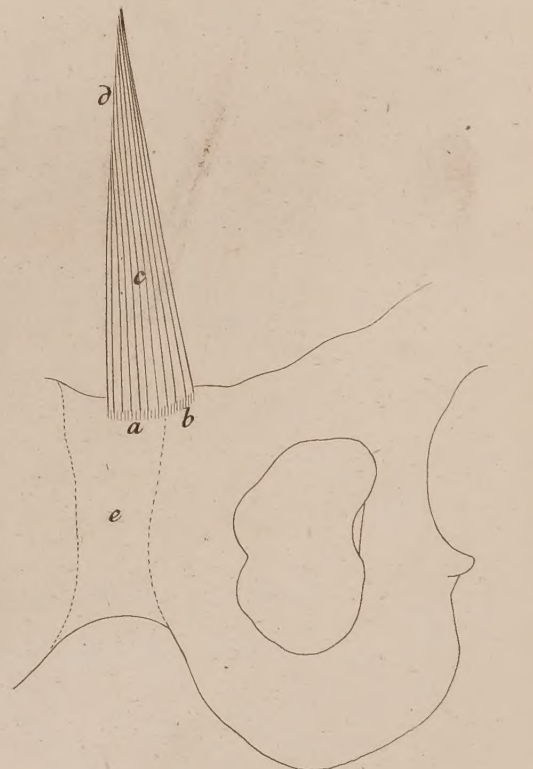
V.
Obliquus internus abdominis.



VI.
Rectus abdominis.



VII.
Pyramidalis.



THE THIRTEENTH ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

MUSCLES OF THE ABDOMEN AND TESTICLE.

Add here Tab. XIV.

FIGURE I.

The external obliquus of the abdomen, laterally.

a a The fleshy part.
b c d d The first head. c the tendinous part of its origin. d d its origin from the fifth rib.
e f g g The second head. f the tendinous part. g g its origin from the sixth rib.
h i k k The third head. i the tendinous part. k k its origin from the seventh rib.
l m n n The fourth head. m the tendinous part. n n its origin from the eighth rib.
o p q q The fifth head. p the tendinous part. q q its origin from the ninth rib.
r s t t The sixth head. s the tendinous part. t t its origin from the tenth rib.
u v w w x The seventh head. v the tendinous part. w w its origin from the eleventh rib. x the part which is connected with the beginning of the transverse muscle of the abdomen, there coming out from the said tendinous part.
y z A The eighth head. z the tendinous part. A its origin from the twelfth rib.

The heads arise from the lower edge of each rib, with their sides placed obliquely, and proceed forward and upward over the outer side of the rib towards its upper edge.

BBBBBCCDEEEFFFGHHIKLM The tendinous expansion.

C C The protuberance of the fleshy part of the obliquus internus under the said expansion.

D The protuberance of the fleshy part of the transversus under the same, and also under the aponeurosis of the internal obliquus.

E E E E The protuberance of the fleshy body of the rectus.

F F F The places where the tendinous lines or interfections of the rectus appear thro' the aponeuroses or tendinous expansions of the two obliqui.

G The protuberance of the pyramidalis under the same aponeuroses.

H H. I K The two portions into which the aponeurosis divides itself, from whence it is continued even to the pubes under the appearance of distinct tendons; and betwixt them a slit or aperture is formed, thro' which passes the chord of the spermatic vessels with the cremaster muscle.

K The place where the outer of the said portions inserts itself into a protuberance, that stands out in the upper and fore part of the os pubis, and into the adjacent spine that lies on the outer side of the said protuberance: and partly it joins into the ligaments that lie on the inner side of the said protuberance, and which invest the fore part of the synchondrosis or cartilaginous juncture of the ossa pubis.

L The thin expansion that goes from one of the forefaid tendons to the other, and conjoins them together. Under that expansion the chord of the spermatic vessels passes along, accompany'd with the beginning of the cremaster muscle; which both come out at M.

N N The lower tendinous edge, extended from the anterior extremity of the spine of the ilium to the pubes.

O P An aponeurosis or tendinous part, P Q the part which is fleshy, and in some bodies is extenuated into a tendinous end, inserted along the upper and outer edge of the fore part of the spine of the os ilium.

R The aponeurosis inserted into the cartilage of the sixth rib.

For the manner in which the upper part of the aponeurosis is inserted into the bottom of the sternum, see Tab. I. s in the trunk.

Add here Fig. 2. following.

The *systematic connexion* appears in Tab. IX. S, &c. in the trunk; where its upper part lies under the pectoralis H I; its heads under the serratus major N R O R P R Q, and under the latissimus dorsi Ω E D, and betwixt D and C.

FIGURE II.

The external obliquus of the abdomen, anteriorly.

a a The fleshy body.
b c d d The first head. c the tendinous part. d d its origin from the fifth rib.
e f g g The second head. f the tendinous part. g g its origin from the sixth rib.
h i k k The third head. i the tendinous part. k k its origin from the seventh rib.
l m n n The fourth head. m the tendinous part. n n its origin from the eighth rib.
o p The fifth head. p its origin from the ninth rib.
q q q q r r s t t t t t u u v v w w x x y y z A B B C D E F F F G H I K
The aponeurosis or tendinous expansion of this muscle.
r r The part where the flesh of the internal obliquus is protuberant under the same aponeurosis.
s The place where the flesh of the transverse is protuberant under the said aponeurosis, and also under that of the obliquus internus.

t t t t The protuberances of the fleshy portions of the rectus.
u u u u The appearances of the tendinous lines or interfections of the rectus, thro' the aponeuroses of the obliquus externus and internus.
v The protuberance of the pyramidalis under the same.
w w The lower tendinous edge, which goes from the extremity of the fore part of the spine of the ilium to the pubes.
x x. y y The two portions into which the aponeurosis divides itself, and is thence continued to the pubes, under the appearance of two distinct tendons: and thro' this division or fissure, it is that the chord of the spermatic vessels with the cremaster muscle pass out to the scrotum; and in women it gives a passage to the round ligament of the uterus.

z The thin expansion extended from one of the forefaid tendons to the other, and connecting them together all the way from the place where they first divide or recede from each other. Under this expansion the chord of the spermatic vessels and beginning of the cremaster muscle pass along. And below this, just above the pubes, the spermatic chord passes out thro' the small oblique ring A of this tendon, being a space left betwixt the expansion z, the tendons x. y, and the os pubis.

B. B. B. &c. Slender, remote tendinous threads, which cross those fibres of the aponeurosis, that run in the same direction with the muscle. These compose the expansion z, which runs from one tendon y y, to the other x x, at the pubes.

C The uppermost part of the aponeurosis, inserted into the fore part of the cartilage of the sixth rib.

D The part which is inserted into the fore side of the end of the cartilage of the seventh rib.

E The part inserted into the bone of the ensiform cartilage.

E F F F The linea alba, in which the aponeuroses of the two external oblique muscles of the abdomen cross each other, are intermix'd, and also conjoined with the subjacent aponeuroses of the internal obliqui.

G The opening in the linea alba, thro' which the umbilical vessels pass'd out in the foetus.

H The place where the right and left aponeuroses, running down from above, cross each other and are intermix'd with the ligaments which invest the fore part of the synchondrosis of the pubis.

I The lowermost portion running down and mixing itself with the ligaments, which invest the fore part of the synchondrosis of the pubis, and inserting itself with them into the opposite bone of the pubes.

Add here Fig. 1.

The *systematic connexion* appears in Tab. I. d &c. in the trunk; where in its upper part it lies under the pectoralis ξ in the trunk, its heads lie under those of the serratus major ω a b then under the latissimus dorsi τ υ. Its posterior part appears in Tab. V. W in the back, where it is partly covered by the latissimus dorsi P Q.

L The synchondrosis or cartilaginous juncture of the ossa pubis, invested or tyed together in the fore part by ligaments.

FIGURE III.

The internal obliquus of the abdomen, in its back part.

a a The broad tendon which begins by aponeuroses, the outermost of which lies under the broad tendon i of the latissimus dorsi, which is spread over and attached to it.

b b The tendinous beginning arising from the upper part of the spine of the ilium.

c The fleshy part.

d e The extremity that is inserted into the outer part of the lower edge of the twelfth rib; d part of the bony end of that rib, e the cartilaginous part.

f g The end inserted into the outer part of the lower edge of the eleventh rib, f part of its bony end, g its cartilaginous extremity.

h The end that belongs to the tenth rib.

i The broad tendon by which the latissimus dorsi begins: which tendon see in Tab. XVIII. Fig. 2.

k k The place from whence the broad tendon of the latissimus dorsi is cut off, where that tendon no longer coheres with the broad tendinous beginning of the obliquus internus.

Add here Fig. 4. and 5.

The *systematic connexion* appears in Tab. VI. M &c. in the lower part of the trunk; where as here it is covered at its beginning by the broad tendon U of the latissimus dorsi. And what part of it appears naked in that table, in Tab. V. lies under the latissimus dorsi P Q, and the external oblique muscle, W in the back.

FIGURE IV.

The internal obliquus of the abdomen, with the cremaster.

a The fleshy part.

b The origin from the upper part of the spine of the ilium.

c c The margin that springs from the tendinous edge of the obliquus externus.

d d The fleshy part inserted into the lower margin of the cartilage of the tenth rib.

THIRTEENTH MUSCULAR TABLE.

e e e The aponeurosis as yet single, before it reaches the rectus, and inserted at ff into the lower part of the cartilage of the ninth rib.

g g g h The anterior lamella or plate of those two, into which the aponeurosis divides near the rectus.

h The infertion of the said anterior lamella into the lower part of the ninth rib. Betwixt the lower g and lower i, that part of the aponeurosis that is below the middle space betwixt the navel and synchondrosis of the pubis, continues single, and is joined in its back part with the aponeurosis of the transversus, and together with that goes before the rectus.

i i i Here the anterior lamella or plate, continuous with the lower part of the aponeurosis, which as yet continues single, is cut off according to the length of the abdomen, in the part where it first joins itself with the aponeurosis of the external obliquus; while the posterior part or lamella of it continues to invest the abdomen as far as the linea alba. And above, the anterior lamella disappears along the margin of the thorax in the aponeurosis itself of the obliquus externus. Below, this aponeurosis inserts itself, with the aponeurosis of the external obliquus, into the spine, tubercle, and ligaments of the pubis.

k k The posterior of those two lamellæ into which the aponeurosis divides itself near the rectus; whence it passes behind the rectus. In the upper part of it some slender fibres appear crossing its principal fibres.

l m n Its infertion into the lower margin of the thorax, which is formed by the cartilages of the seventh and eighth ribs n m, and m l.

o p Its infertion into the lateral margin of the bony part of the ensiform cartilage; and into the same side of that cartilage itself, at p q. q r its infertion into the fore part of the cartilage not far from its point.

s s s Its termination in the linea alba.

t Part of the flesh, under which runs the chord of the spermatic vessels, a little protuberant and conspicuous thro' the same. This portion runs afterward for some length upon the spermatic chord.

u The portion which ends in the beginning of the cremaster; and behind which the spermatic chord y passes out.

Add here Fig. 3. and 5.

The *systematic connexion* appears in Tab. II. M &c. in the trunk; where the upper and larger part of the posterior of those plates (into which the aponeurosis divides itself at the rectus,) lies hid behind the rectus Z Z &c. and below the spermatic chord r, the beginning of the cremaster q, goes down before it, as here. But in Tab. I. it lies behind the external obliquus d &c. in the trunk.

v w x x The cremaster muscle.

w Its origin or beginning from the internal obliquus, from whence it joins itself to the chord of the spermatic vessels.

x x Its lower extremity extenuated and inserted into the vaginal tunica of the testicle. But in other bodies we have found it terminating otherwise: see our history of the muscles, Lib. III. Cap. 80.

Add here Fig. 5.

The *systematic connexion* of the cremaster appears in Tab. II. p q in the trunk: where, as here, part of it lies behind the chord of the spermatic vessels, and testicle. Then in Tab. I. z in the trunk; where the beginning lies hid behind the aponeurosis of the external obliquus of the abdomen x.

y The chord of the spermatic vessels.

z The synchondrosis of the ossa pubis, constringed or tied together in their fore part by ligaments.

FIGURE V.

The internal obliquus of the abdomen, laterally.

a The outermost aponeurosis of those two by which it begins, and which lines the inner side of the broad tendon by which the latissimus dorsi begins; arising with that from the spines of the three lower vertebræ of the loins, and the following spines of the os sacrum; also from the upper part of the spine of the ilium b b.

For the inner of those aponeuroses by which it begins, see Tab. XIV. Fig. 3.

c c The broad tendon in which its double aponeurosis conjoins itself.

d d Its origin by a tendinous beginning from the upper part of the spine of the ilium.

e e The part which goes off from the margin of the external obliquus of the abdomen.

f f The fleshy part.

g h Its infertion into the outer part of the lower margin of the twelfth rib: as well into part of its bony extremity g, as its cartilage h.

i The edge that goes along the side of the eleventh internal intercostal muscle. k l Its infertion into the outer part of the lower margin of the eleventh rib: into the end of its bony part k, and its cartilaginous part l.

m The edge that ascends along with the tenth internal intercostal muscle.

n n Its infertion into the lower part of the cartilage of the tenth rib.

o o o The aponeurosis which is single in this part, before it reaches the rectus. And here the margin of it at p ascends along with the ninth internal intercostal muscle, and is then fix'd at q q into the lower margin of the cartilage of the ninth rib.

r r The anterior of those two lamellæ, into which the said aponeurosis divides itself near the rectus.

Betwixt the lowest r and lowest s, that part of the aponeurosis that is below the middle space betwixt the navel and synchondrosis of the ossa pubis, continues single, and is joined in its back part with the aponeurosis of the transversus, passing along with that before the rectus.

s s s Here the anterior lamella or plate, continuous with the lower part of the aponeurosis that as yet remains single, is cut off according to the length of the abdomen, in the place where it first conjoins itself with the aponeurosis of the external obliquus of the abdomen; the posterior portion of it investing the abdomen even as far as the linea alba.

t t t The posterior of those two lamellæ, into which the aponeurosis divides itself near the rectus, and which goes behind the rectus. In the upper part of this lamella, some slender tendinous threads cross the principal fibres of it.

u Part of its flesh, under which runs the chord of the spermatic vessels, a little protuberant and conspicuous thro' the same.

v The part that ends in the beginning of the cremaster.

Add here Fig. 3. and 4.

The *systematic connexion* appears in Tab. IX. where it lies behind the external obliquus of the abdomen S, &c. in the trunk, and behind the latissimus dorsi Ω A.

w The beginning of the cremaster muscle, going off from the internal obliquus.

x The chord of the spermatic vessels.

y The cremaster muscle, with the chord of the spermatic vessels cut off.

The *systematic connexion* of the cremaster muscle appears in Tab. IX. l in the trunk; where its beginning lies hid behind the aponeurosis of the external oblique muscle of the abdomen f.

FIGURE VI.

The rectus muscle of the abdomen.

a b c The principal tendon by which it begins, and which springs at b from the upper and fore part of the ligament, that invests or ties together the fore part of the synchondrosis of the ossa pubis: and at c there is a small portion arises from the adjacent os pubis.

d e The second and longer tendon, by which it arises from the fore part of the same ligament, and conjoins into one with the tendon a.

f g h i The four fleshy portions or bellies.

k The half tendinous line or intersection, that is below the navel.

l The tendinous line, that is in the umbilical region.

m The tendinous line, that is in the middle betwixt the navel and the place where the rectus first climes upon the thorax.

n The tendinous line, that is seated where the rectus first ascends, or is about to ascend upon the thorax.

o o The extremity inserted into the lower and next adjacent outer part of the cartilaginous end of the seventh rib.

p p The end that is inserted into the outer part of the lower margin of the cartilage of the sixth rib, near the middle of its length, and on the outer side of the former end.

q q The end that is inserted into the outer and lower part of the cartilage of the fifth rib, almost where that cartilage begins, and on the outer side of the second end.

The *systematic connexion* appears in Tab. II. Z Z &c. in the right side of the trunk; where at its origin it lies behind the pyramidalis l; in the left side also it is in part covered by the anterior of those two lamellæ, into which the aponeurosis of the internal obliquus divides itself near the rectus; but beneath it lies the common aponeurosis of the obliqui and transversus, of which that part only can be seen here, that is formed by the anterior of those lamellæ, into which the aponeurosis of the obliquus internus divides itself near the rectus, W X &c. But in Tab. I. the rest of it lies under the common aponeurosis of the obliqui and transversus, and then under the common aponeurosis of the obliqui, of which that part only can be seen, which is formed by the aponeurosis of the obliquus externus, o p &c. in the trunk: and where it climes upon the thorax only that of the aponeurosis of the external obliquus can be seen: and lastly under the aponeurosis of the pectoralis muscle ξ in the trunk.

r The synchondrosis of the ossa pubis, constringed or tied together with ligaments.

FIGURE VII.

The pyramidalis muscle of the abdomen.

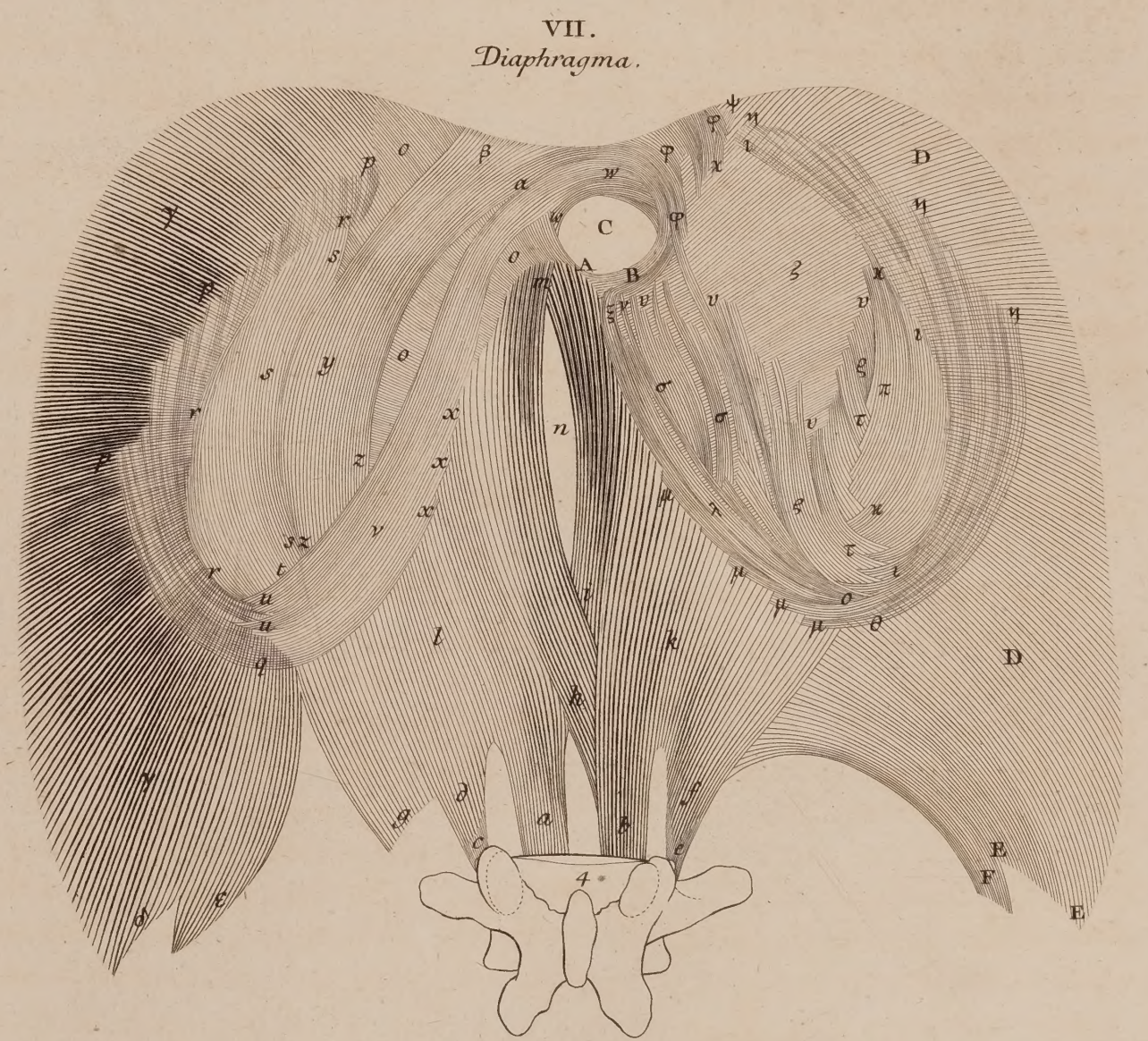
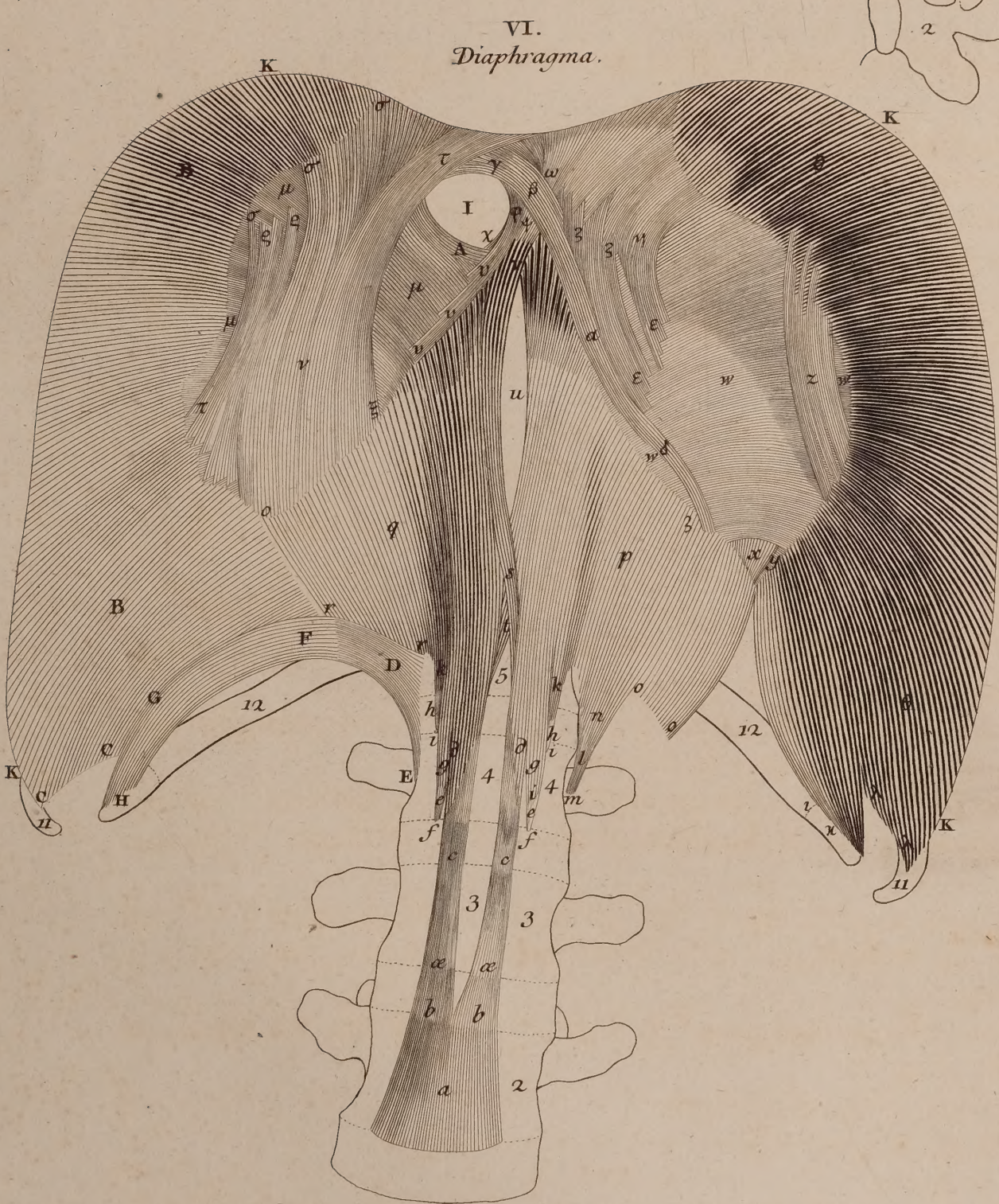
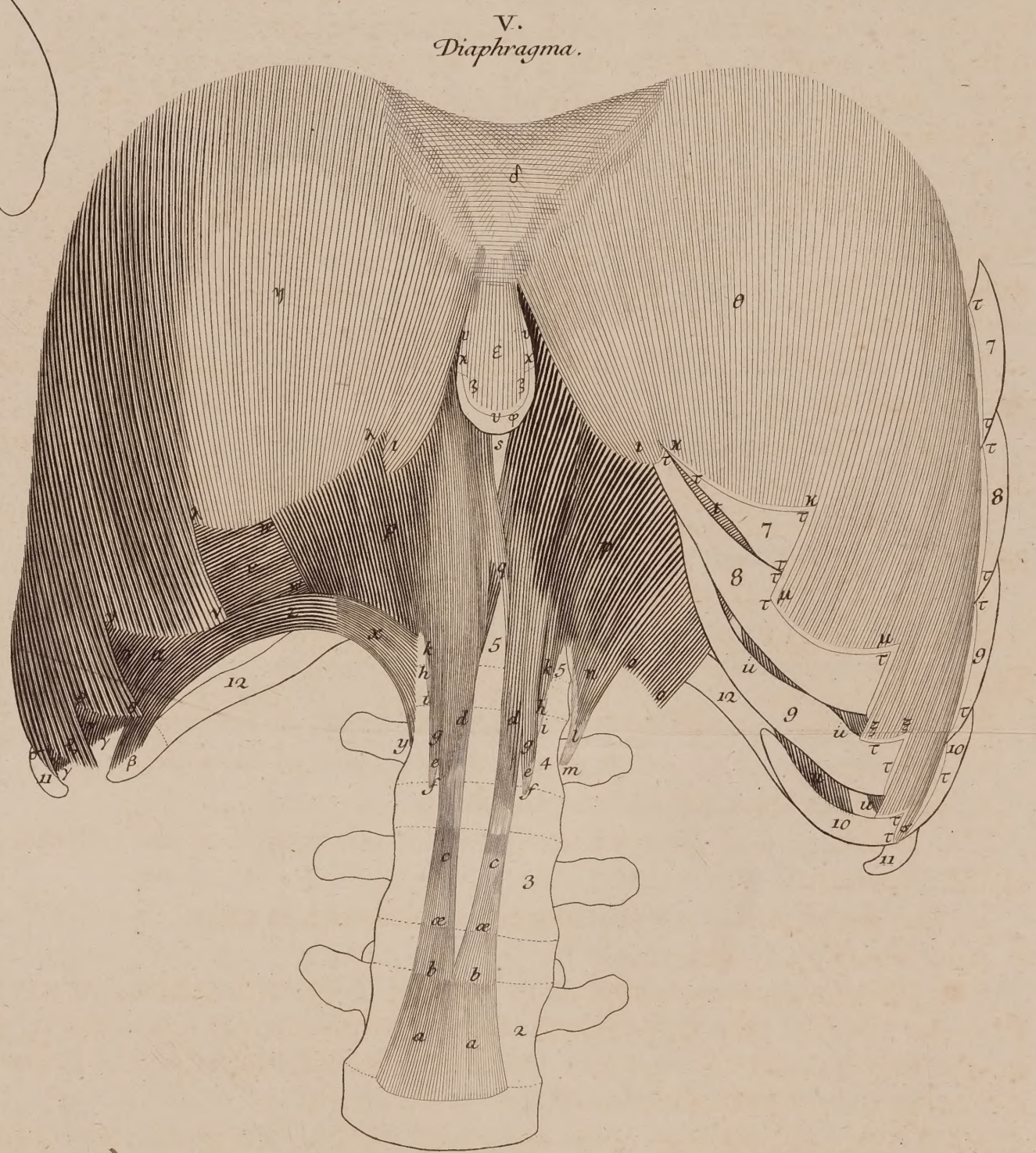
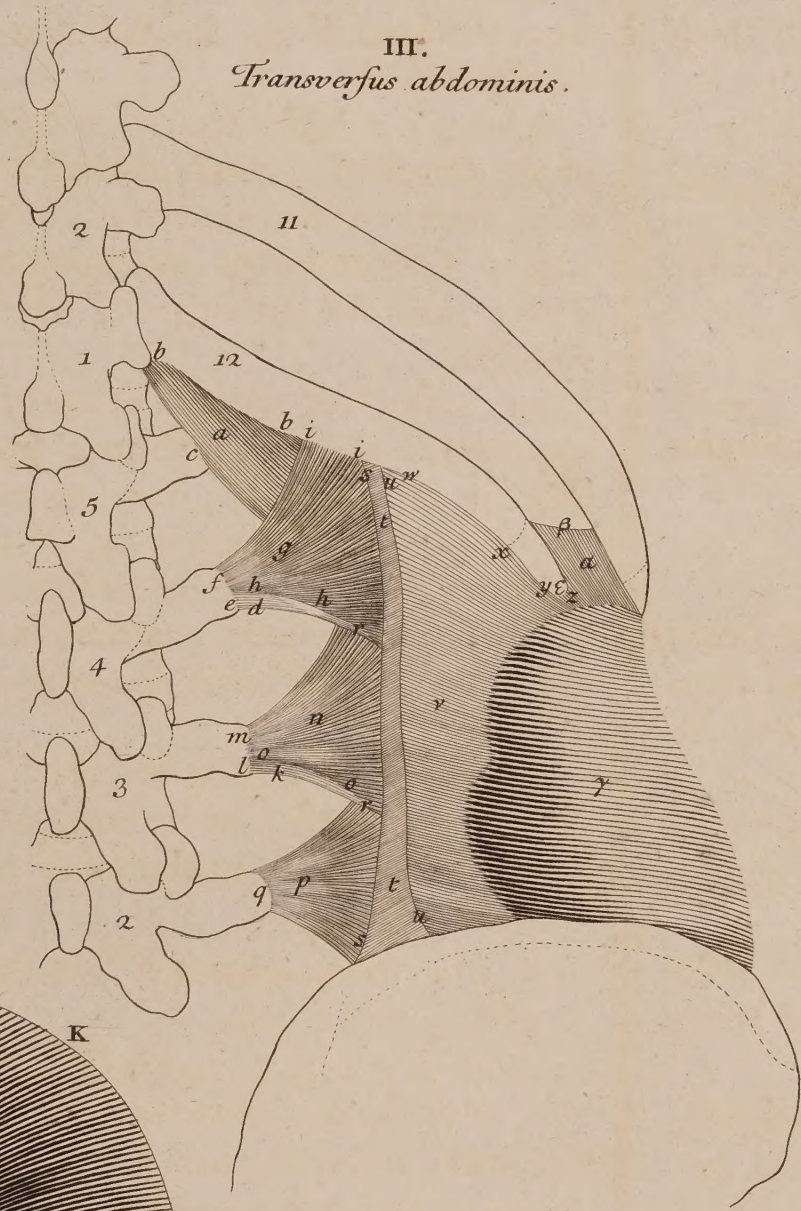
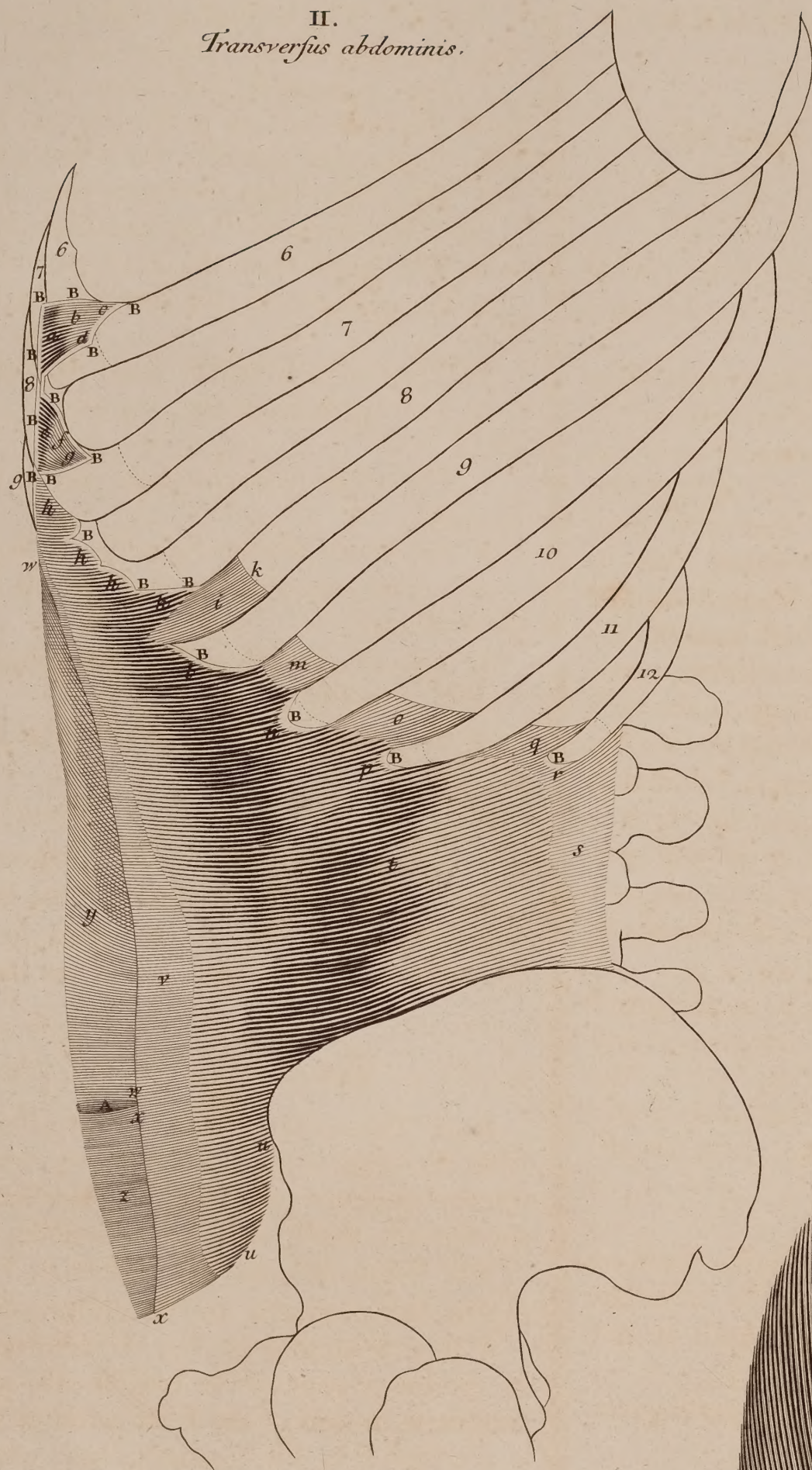
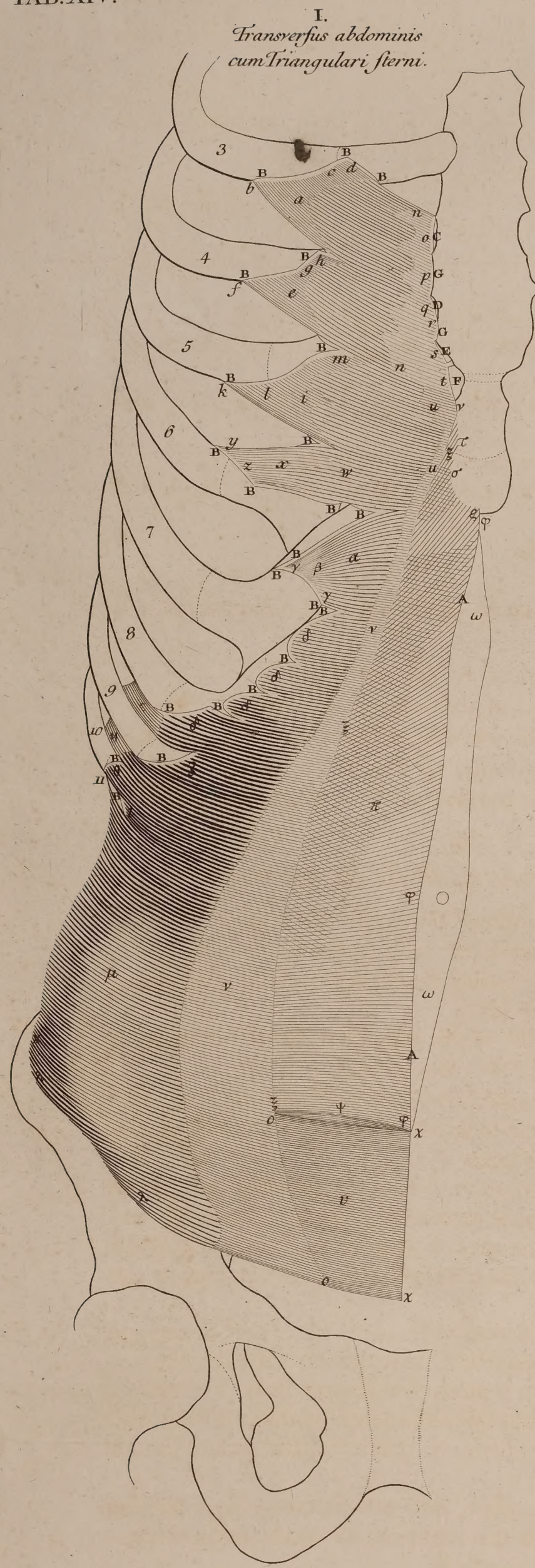
a b The tendinous origin by which it springs from the upper part of the ligament, that ties together the fore part of the synchondrosis of the ossa pubis; and from the next adjacent part of the os pubis at b.

c The fleshy part.

d The broad extremity that belongs to the linea alba.

The *systematic connexion* appears in Tab. II. l m in the trunk; where it is partly cover'd by the common aponeurosis of the transversus and obliqui, of which only the anterior of those two plates can be seen, into which the aponeurosis of the internal obliquus divides itself Y Q in the trunk. And what there appears naked (*i. e.* in Tab. II.) lies under the foresaid common aponeurosis in Tab. I. of which aponeurosis only that part can be seen, which belongs to the external obliquus, q w in the trunk.

e The synchondrosis of the ossa pubis, invested or constringed by ligaments.



The FOURTEENTH ANATOMICAL TABLE of the HUMAN MUSCLES EXPLAINED.

THE REMAINING MUSCLES OF THE ABDOMEN. Add here Tab. XIII.

FIGURE I.

The fore part of the transversus of the abdomen, with the triangularis of the sternum.

a--v The *triangularis of the sternum*.
a b c d The tendinous beginning of the head, which arises from the inner part of the third rib, from the end of its bony part b c, and beginning of its cartilaginous part c d.
e f g h The tendinous beginning of the head, which arises from the inner part of the fourth rib; from the end of its bony part f g, and from the beginning of its cartilage g h.
i k l m The tendinous beginning of the head, which arises from the inner part of the fifth rib, from the end of its bony part k l, and from the beginning of its cartilage l m.
n n The tendinous part which is formed by the fleshy portion, that arises from the conjunction of the two upper heads; and which in some bodies is joined with the tendinous end of the lower head u u, and in others is separate. 'Tis inserted into the inner part o of the extreme cartilage of the fourth rib, and of the breast bone p, betwixt the ends of the cartilages of the fourth and fifth ribs, also of the extreme cartilage of the fifth rib q; of the breast-bone betwixt the ends of the cartilages of the fifth and sixth ribs; also into the inner side of the cartilaginous end of the sixth and seventh rib.
u u The tendinous end in which the flesh of the third head terminates: inserted at v into the edge of the bone of the ensiform cartilage. But the manner in which it continues to be inserted into the rest of the edge of that bone, as far as the ensiform cartilage, and into the edge of the said cartilage itself, cannot be seen in this figure, because the inner plate of the aponeurosis belonging to the internal obliquus of the abdomen π , is here spread over it. But you may see Tab. X. Fig. 24. v w.

The *systematic connexion* appears in Tab. III. x in the trunk, where its end is spread over the inner plate of the aponeurosis of the internal obliquus of the abdomen s: and the rest lies under the ribs, sternum, and the internal intercostals, as the sixth h, the fifth b, the fourth a, and the third Z. But what appears there naked, lies under part of the plate of the aponeurosis belonging to the internal obliquus, here cut off. In its back part see Tab. X. Fig. 24.

w--v The *transversus of the abdomen*.

w The first head arising tendinous from the inner part of the sixth rib; from its bony end y, and its contiguous cartilage z. This head may be referred to the triangularis, as it joins sooner and in a more similar course with the lower head of that muscle, than with the head which next follows it.

α The second head arising tendinous at β from the inner part of the cartilage of the seventh rib $\gamma \gamma$.

$\delta \delta \delta \delta$ The beginning that is split into several portions (into four here) which arise from the inner part of the cartilage of the eighth rib $\delta \delta \delta \delta$.

ϵ The aponeurosis by which it comes from the space betwixt the eighth and ninth rib. See Fig. 2. i.

ζ The origin from the inner part of the cartilage of the ninth rib.

η The aponeurosis that comes from the space betwixt the ninth and tenth rib. See Fig. 2. m.

θ The origin from the inner part of the cartilage of the tenth rib.

ι The origin from the inner part of the cartilage of the eleventh rib.

κ The origin from the spine of the ilium.

$\lambda \lambda$ The edge that springs from the tendinous margin of the external obliquus of the abdomen.

μ The fleshy part. $\nu \nu$ the aponeurosis in which it ends.

Add here Fig. 2. and 3.

The *systematic connexion* appears in Tab. III. l--q in the trunk; where its heads lie under the ribs: the first of them under the fifth internal intercostal b, and sixth h; the fourth under the eighth e, the fifth under the ninth f. The rest in Tab. II. lies under the internal obliquus M &c. in the trunk.

$\xi \xi \xi$ The posterior plate of the aponeurosis of the internal obliquus cut off, where it first joins itself with the aponeurosis of the transversus, and with the tendinous end of the triangularis sterni.

$\circ \circ$ The aponeurosis of the internal obliquus cut off, where it first joins itself with that part of the aponeurosis of the transversus, which goes before the rectus and pyramidalis.

π The posterior plate of the aponeurosis of the internal obliquus of the abdomen, spread over that part of the aponeurosis of the transversus which lies under the rectus; and together with that is inserted at g into the fore part of the ensiform cartilage, near its tip; and into the lower part of the edge of the said cartilage at σ ; also into its upper edge and bony edge τ , joined with the tendinous end of the triangularis sterni.

Add here Fig. 2. and Tab. XIII. Fig. 4.

υ The aponeurosis of the internal obliquus where it is single, and spread over that part of the aponeurosis of the transversus, which goes before the rectus and pyramidalis. Add here Fig. 2. and Tab. XIII. Fig. 4.

$\phi \phi \chi \chi$ The insertion of the aponeurosis of the transversus, (with the aponeurosis of the obliquus internus that is spread over it) into the linea alba.

ψ The fissure or opening in the aponeurosis of the transversus, about its middle part, betwixt the navel and synchondrosis of the pubis: and this is formed by a transverse separation of the aponeurosis, extended to the linea alba, by which the upper part of the aponeurosis, that goes behind the rectus is severed from the lower, that goes before the rectus and pyramidalis. The rectus therefore passes thro' this fissure, to the size and figure of which it corresponds. But there is also found a thin continuation of the aponeurosis behind the lower part of the rectus, in some thicker, in others thinner, and in some more or less in a manner discontinued, and more or less in its breadth.

$\omega \omega$ The linea alba, from whence at A A is cut off the aponeurosis of the obliquus externus, with the anterior lamella or plate of the aponeurosis of the obliquus internus.

B. &c. The ribs here cut off; C D E F the cartilages of those ribs, C of the fourth, D of the fifth, E of the sixth, F of the seventh; G G the breast bone cut off, to shew the triangularis and transversus that are seated behind it.

FIGURE II.

The transversus of the abdomen, laterally.

a b c d The first head. a the fleshy part. b the tendinous beginning arising from the sixth rib; from the end of the bony part c, and from its contiguous cartilage d.
e f g The second head. e the fleshy part. f the tendinous beginning arising at g from the inner part of the cartilage of the seventh rib.

h h h h The beginning that is split into several (here four) parts, arising from the inner part of the cartilage of the eighth rib h h h h.

i The aponeurosis that comes from the space betwixt the eighth and ninth rib, from the inner surface of the internal intercostal, and partly from the ninth rib itself. k the part cut off; for it has a longer thin origin.

l The origin from the inner part of the cartilage of the ninth rib.

m The aponeurosis that comes from the interval betwixt the ninth and tenth rib; like i.

n The origin from the inner part of the cartilage of the tenth rib.

o The aponeurosis that comes from the interval betwixt the tenth and eleventh rib; like i.

p The origin from the inner part of the cartilage of the eleventh rib.

q The aponeurosis that comes from the interval of the eleventh and twelfth rib; like i.

r The origin from the inner part of the extreme cartilage of the twelfth rib, tendinous.

s The broad tendon by which it begins in the loins. t the fleshy part.

u u The edge that comes from the tendinous margin of the internal obliquus of the abdomen.

v The aponeurosis in which the flesh ends.

Add here Fig. 1. and 3.

w w The posterior lamella of the aponeurosis of the internal obliquus cut off, $\xi \xi \xi$ Fig. 1.

x x The aponeurosis of the internal obliquus cut off, $\circ \circ$ Fig. 1.

y The posterior lamella of the aponeurosis of the internal obliquus, π Fig. 1.

z The aponeurosis of the internal obliquus where it remains single; υ Fig. 1.

A The slit in the aponeurosis of the transversus, ψ Fig. 1.

B B &c. The ribs here cut off, to shew the transversus that is seated behind them.

FIGURE III.

The transversus of the abdomen, in its back part.

a--r The origins of the broad tendon, by which the transversus begins, together with the origins of the inner plate, which being common to the aponeurosis of the internal obliquus and lower posterior serratus, springs from the transverse processes of the second, third, and fourth vertebra of the loins.

The *systematic connexion* appears in Tab. VII. where they lie under the communis capitis, sacrolumbalis, and longissimus dorsi, $\delta \epsilon$ in the trunk.

a The tendinous head of the transversus, which arises at b b from the outer part of the lower edge of the twelfth rib, and at c from the posterior extremity of the transverse process of the fifth vertebra of the loins.

d e f g h h i i The tendinous head which arises at e f from the posterior part of the end of the transverse process of the fourth lumbar vertebra. g is a thin tendon spread over it, and arising with it from the transverse process at f, and also at h h goes off from the head itself, and is inserted at i i into the outer part of the lower edge of the twelfth rib.

k l m n o o A like tendinous head which arises at l m from the outer part of the end of the transverse process of the third lumbar vertebra. n a thin tendon like the former, with which it is covered, and arises with it at m, but departs from it at o o.

p q The tendinous head upon all of which is spread the thin tendon, arising with it at q from the back part of the end of the transverse process of the second lumbar vertebra.

r r The place where the fibres cross each other, and are interwove in a manner too obscure to be represented; but chiefly in this manner, as in the body whence this figure was taken; varying more or less in others.

s s The part whence is cut off the outer plate of the aponeurosis, common to the serratus posticus inferior, and the internal obliquus of the abdomen.

t t The aponeurosis common to the posterior lower serratus, and internal obliquus; cut off at u u, where it no longer coheres with the broad tendon by which the transversus begins.

v The broad tendon by which the transversus begins, adhering to the lower edge of the twelfth rib; to its bony part w x, and its cartilage x y to the tip.

z The origin from the inner part of the cartilage of the twelfth rib, beginning tendinous.

α The aponeurosis q Fig. 2. here cut off at β .

γ The fleshy part.

Add here Fig. 2. and 1.

The *systematic connexion* appears in Tab. VII. Y Z in the trunk; where in part it lies under the aponeurosis, common to the posterior lower serratus, and internal obliquus of the abdomen $\gamma \gamma$; and under the tenth internal intercostal X. But what there appears naked, in Tab. VI. lies hid behind the posterior lower serratus C K, and the internal obliquus M N in the trunk.

ϵ The cartilage of the twelfth rib cut off.

FIGURE IV.

The diaphragm, laterally.

a The second fleshy portion of the left side, that goes into the left lateral end.

b b Its end inserted into the inner part of the cartilage of the seventh rib.

c c That which is inserted into the inner part of the cartilage of the eighth rib.

d e f That to the inner side of the ninth rib, its cartilaginous part d e, and its bony part e f. d the tendinous part of this end.

g h i That to the inner part of the tenth rib, to its cartilaginous part g h, and its bony part h i. g the tendinous part of this end.

k l m That which in part belongs k l to the ligament w, and in part l m is inserted into the inner side of the bony part of the eleventh rib, near its cartilage. l the tendinous part.

n o p That whose part n o belongs to the ligament v, and part o p is inserted into the inner side of the twelfth rib: into its cartilage o, and its bony part o p. o the tendinous portion.

q r r r s The aponeurosis marked p--s Fig. 7. here q r r r denote the tendinous part, r r r s the fleshy part.

t t The middle tendon of the diaphragm.

u The large left head, a α b c Fig. 5.

Add here Fig. 5. 6. and 7.

v The ligament that is extended almost from the tip of the cartilage of the twelfth rib, to the bony part of the eleventh near its cartilage.

w The ligament that is extended almost from the beginning of the cartilage of the eleventh rib, to the bony part of the tenth rib near its cartilage.

x. &c. The ribs cut off to shew the diaphragm that is seated behind them.

FOURTEENTH MUSCULAR TABLE.

FIGURE V.

The diaphragm in its fore part.

a a b c d. a a b c d The two first heads of which the left is less than the right. a a the thin tendinous part which arising from the ligaments that run along the surface of the bodies of the lumbar vertebrae, joins the diaphragm outwardly. a a here these heads arise beneath with thick tendons at c c from the lower part of the body of the third vertebra of the loins, and particularly from the sides of its fore part. In others as here, at b b they arise from the upper part of the body of the second vertebra. Some have these tendons on each side divided into two; others have fleshy portions on each side, as at d d in which the said tendons enter on the outer sides. The beginnings which usually join these heads from behind them are not here visible, as they lie underneath them.

e f g. e f g The second head arising tendinous at e e from the ligament f, that is interposed betwixt the bodies of the third and fourth vertebra of the loins. g g the fleshy portions in which they end.

h i k. h i k The third head arising tendinous at h h, from the sides of the upper margin of the body of the fourth lumbar vertebra. k k the fleshy parts in which they end.

l m n The fourth head of the left side. l the tendinous beginning, arising at m from the fore part of the root of the transverse process of the fourth lumbar vertebra. n the flesh in which it ends.

o o A beginning that is sometimes found, springing from the surface of the quadratus lumborum.

p p The first fleshy portions of the diaphragm formed by the conjunction of its heads.

q A portion of the first left head that joins the fleshy part of the first on the right side, and afterwards runs along thro' the right side of the hole, by which the gula or œsophagus comes out of the thorax.

r Part of the first right head, which going along behind the portion q crosses the same, and goes into the first left fleshy portion; so that it occasions a crossing of many of the fasciculi or bundles of fibres.

s The hole thro' which the œsophagus comes out of the thorax into the abdomen.

t Part of its middle tendon.

u u u u The second fleshy part on the left side. See Fig. 6.

v v v v w w The second fleshy part on the right side, climbing over the first at w w, crossing the same and soon after becoming tendinous.

x y z a b A portion as I have sometimes found it in one and sometimes in both sides, forming the lower margin of the diaphragm on this side; and which here arises (but differently in others) from the transverse process of the fourth lumbar vertebra y, and also from the fifth; and first tendinous at x (but differently both in substance and figure in various bodies) then fleshy at z, and joining the second fleshy portion v, unites with the same behind a, and is inserted at b into the cartilage of the 12th rib.

γ γ The margin cut off, which is marked C C in Fig. 6.

δ The anterior point of the middle tendon in which it ends, and wherein the fibres cross each other.

ε The middle fleshy end which is extended along the inner part of the ensiform cartilage almost to its end ζ ζ.

η θ The two second fleshy portions; which go into two lateral ends.

ι ι The extremities of them which connect themselves to the peritonæum.

κ κ The end inserted into the inner part of the cartilage of the seventh rib. 'Tis cut off from thence at λ λ.

μ μ That inserted into the inner part of the cartilage of the eighth rib. 'Tis cut off from thence at ν ν.

ξ ξ That inserted into the inner part of the cartilage of the ninth rib. 'Tis cut off from thence at ο ο.

π That inserted into the inner part of the cartilage of the tenth rib. 'Tis cut off from thence at ς ς.

σ σ The ends inserted into the inner part of the cartilage of the eleventh ribs. Add here Fig. 6. 7. and 4.

The systematic connexion appears in Tab. IV. M--o in the trunk; where the left fourth head lies in part under the psoas magnus t; the right under the psoas parvus r, and the magnus t; the first head in part under the great psoas, betwixt v and w. τ τ &c. Here the ribs are cut off, to shew the diaphragm that lies behind them.

υ υ υ The ensiform cartilage cut off: φ its cartilage, χ χ its bony part.

FIGURE VI.

The posterior part of the diaphragm, view'd from before.

a a b c d. a a b c d The two first heads, as in Fig. 5.

e f g. e f g The second heads, e f g. e f g Fig. 5.

h i k. h i k The third heads, as in Fig. 5.

l m n The left fourth head, as in Fig. 5.

o o The beginning, so marked in Fig. 5.

p The first left fleshy portion of the diaphragm; q the right: formed by a conjunction of the heads, and at length occupying the whole posterior lunated edge of its tendon.

r r The part which comes from the transverse process of the fourth lumbar vertebra, as at l m n; but it goes behind the part D E F; as in Fig. 7. e f.

s A portion of the first left head, joining the first right fleshy part; q Fig. 5.

t Part of the first right head, going into the first left fleshy part: r Fig. 5.

u The hole in the first fleshy part, thro' which the gula passes.

v The upper angle of that hole, where the right and left fibres cross each other; the right being anterior.

w w w x y The left part of the middle tendon. x part of the tendon climbing over the rest w, and crossing it. y a portion that runs over the part x, crosses it, and goes into the lower part of the second left fleshy portion.

z A certain aponeurosis that is stretched round the lateral tendon from the flesh, which is at the posterior point of the left tendon, coming forwards and crossing the fibres of the tendon, and ending forwards in the anterior fleshy portion.

α Part of the aponeurosis v x x Fig. 7. penetrating to the lower part of the tendon; and receiving (when it has penetrated) a portion from the lower part of the tendon, near the left opening for the gula, it bends to the right and goes above the said foramen at β to the forepart of the right fleshy end; and in part runs at γ along the anterior edge of the hole for the cava; and joins itself to the aponeurosis τ.

δ A portion joining the aponeurosis α, and coming from the first left fleshy portion, near the beginning of the tendon.

ε ε ζ ζ η Tendinous fibres, which come out at ε ε from the tendon w, and backwards is partly interwove with the tendon ζ ζ, and partly continued on η.

θ θ Part of the second left fleshy portion, to which the tendon w w x y goes.

ι ι Its end inserted into the lower part of the twelfth rib, into its bony part λ, and its cartilage κ.

λ λ The edge cut off where it was joined to the transversus of the abdomen, betwixt the two last ribs: but otherwise it arises from the ligament v Fig. 4.

μ μ μ The right portion of the middle tendon, formed by the first right fleshy part.

ν The broad aponeurosis coming from the flesh at the posterior point of the right tendon, and continued to the first fleshy portion ξ ο, but coming out from the tendinous fibres ο π near the second, whence it goes forwards crossing the fibres of the tendon; and in the fore part at ς ς, partly interweaves itself with the tendon, partly ends in the anterior flesh σ σ σ, and partly runs on along the right side of the hole for the cava.

υ υ υ The aponeurosis μ μ μ μ Fig. 7. penetrating (near the bottom of the hole for the cava) to the lower part of the tendon; and afterwards bending itself round the left side of that hole, goes to its edge. Behind it runs thro' the anterior point of the tendon.

χ The same as marked A Fig. 7.

ψ The tendinous part into which the first right fleshy part joins, and crosses the left in the upper angle of the hole, thro' which the gula passes; and which afterwards runs behind the tendon β, and then along the lower part of the tendon ω.

A The tendinous margin that belongs to the back part of the hole, thro' which the vena cava passes, formed chiefly by that part of the tendon which goes to the right from the first fleshy portion to the second. It is marked B Fig. 7.

B B The second right fleshy portion in which the tendon μ μ μ ends.

C C Its margin cut off, marked λ λ in the left side.

D E F G H The portion x--β in Fig. 5. E its origin, D the tendinous part, F the fleshy part, conjoined at G with the second fleshy portion B, and inserted at H into the cartilage of the twelfth rib.

I The hole in the tendon thro' which the vena cava passes.

K K K K The anterior part of the diaphragm cut off from this circumference. Add here Fig. 5. 7. and 4.

FIGURE VII.

The diaphragm, in its back part.

a b The two first heads.

c d. e f The second heads. c. e the tendinous origins. d. f the fleshy parts.

g The beginning marked ο ο Fig. 5.

h Part of the first right head, that joins the first left fleshy portion.

i The flesh that is formed by part of the first right head, joined with a portion of the first right head q Fig. 5. and s Fig. 6.

k l The first fleshy parts, k the right, l the left.

m Part of the first left fleshy portion, crossing the right in the upper angle of the hole, thro' which the gula passes.

n The hole in the first fleshy part, thro' which the gula passes.

ο ο ο The left part of the middle tendon, formed of the first fleshy part.

p &c. The broad aponeurosis which being gradually formed by the flesh at the side of the broad tendon p p p, thence along the lateral edge of the tendon, and thro' the beginning of the second fleshy portion betwixt p p p q and r r r; and thro' the tendon betwixt r r r and s s s it goes to the posterior tip of the tendon, and passing round the same, it continues itself partly beneath at t to the first fleshy portion, and partly goes on at v along the posterior lunated edge of the tendon: and at x x x penetrates into the lower part of the tendon, and forms α Fig. 6. at last it runs to the right at w along the upper part of the hole for the cava. at u u the fasciculi cross each other.

y The broad aponeurosis which arising from the first left fleshy portion, comes out here at v from under the aponeurosis z z; and being for a long way conjoined at s s s with the aponeurosis p p p q r r r s s s, then departs from it, and runs partly at α along the upper edge of the hole for the cava joined with the aponeurosis w; and partly runs forward thro' the upper side of the tendon β.

γ γ The left second fleshy part in which the tendon ο ο ο ends.

δ Its margin cut off, marked λ λ in Fig. 6.

ε Its end which it inserts into the twelfth rib: ι ι Fig. 6.

ζ The right part of the middle tendon, formed by the first fleshy portion.

η η η θ &c. The broad aponeurosis which being gradually formed by the flesh at the side of the broad tendon, by a thin aponeurosis η η η, is thence continued along the lateral edge of the tendon, chiefly thro' the beginning of the second fleshy part betwixt η η η θ and ι ι; and thro' the tendon betwixt the lower ι ι and κ κ, it passes to the posterior tip of the tendon, and passing round it goes along the posterior lunated edge of the tendon λ: and in its course penetrates to the lower part of the tendon and forms υ υ υ in Fig. 6. at last it ends in the lower part of the foramen for the cava at ν, and partly bends itself to the right of the hole for the cava at ξ. ο the place where the fibres cross each other.

π ς ς σ σ τ τ υ υ υ υ Certain portions detached in a manner from the fore said aponeurosis, running thro' the tendon and joining themselves thereto at υ υ υ υ. Here at τ τ the fasciculi cross each other.

φ φ φ Tendinous fasciculi, which coming out of the tendon, run forwards thro' it.

χ A tendinous bundle coming out of the tendon, and belonging to the second fleshy portion ψ.

ω Is the same with φ in Fig. 6.

A Part of the tendon here belonging to the edge of the hole, thro' which the cava passes. 'Tis marked χ Fig. 6.

B The tendinous edge belonging to the back part of the hole, thro' which the vena cava passes. It is formed chiefly by that principal tendinous part, that goes to the right from the first fleshy portion to the second. 'Tis marked A Fig. 6.

C The hole in the tendon, thro' which the vena cava passes.

D D The second right fleshy portion into which goes the tendon ζ.

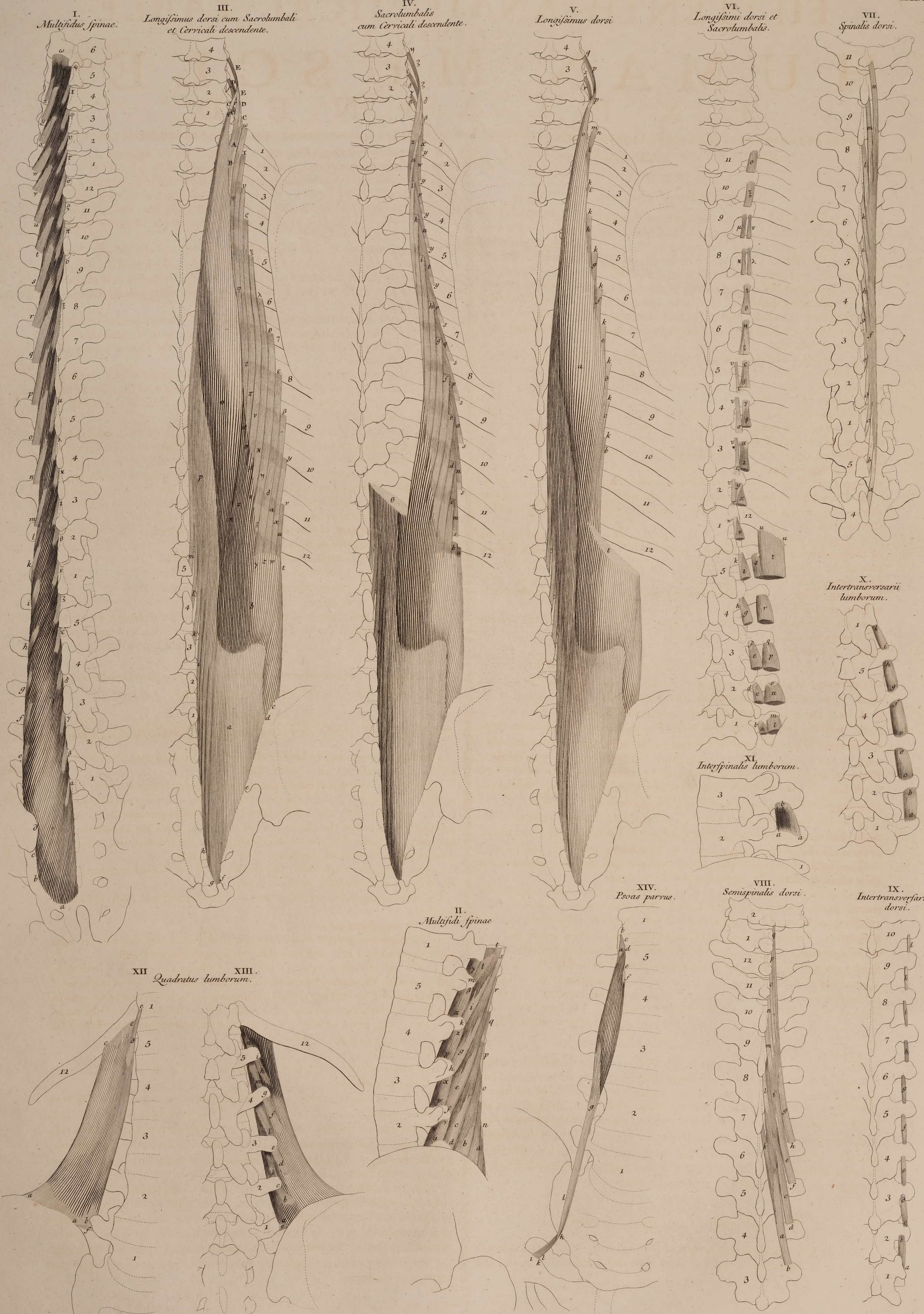
E E Its margin cut off, marked C C in Fig. 6.

F The end of the portion marked D E F G H in Fig. 6.

Add here Fig. 6. 5. and 4.

The systematic connexion appears in Tab. VIII. μ in the loins; where part of it is covered by the quadratus lumborum λ.

But it ought to be observed here, once for all, that there being many and great varieties to be found in the structure of the diaphragm, we were obliged to single out this one.



THE FIFTEENTH ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

MUSCLES OF THE SPINE.

FIGURE I.

The multifidus of the spine.

a The head which arises all the way from the third spinal process of the os sacrum, as far as the tubercle of the said bone, that is formed by the concretion of the fourth oblique descending process, with the oblique ascending process of the fifth vertebra, and from the said tubercle itself of the os sacrum.

The other three heads which arise from the tubercles, formed by the concretion of the oblique descending process of the third vertebra of the os sacrum, with the ascending process of the fourth vertebra, of the second descending with the third ascending, and of the first descending with the second ascending processes; these heads I say cannot be seen in this figure, because they lie under the muscle.

b c The head which arises partly at b from the eminence which the os sacrum has in its back, at the outer side of the second and third of its holes; and partly at c, from the ligament that is extended from the fore said eminence to the lower part of the said bone.

d The part that lies under the os ilium, from whence it arises in this place.

e The tendinous excursion of the head, that arises from the oblique ascending process of the first vertebra of the os sacrum. f a like excursion from the ascending process of the first lumbar vertebra. g that from the process of the second. h that from the third. i from the fourth. k from the fifth. l that from the upper part of the end of the transverse process of the first vertebra of the back.

m The tendinous head arising from the transverse process of the second vertebra of the back; and that from the upper and posterior part of the end of the said process.

n The like tendinous head, which arises from the upper and posterior part of the transverse process of the third dorsal vertebra, betwixt its root and the root of the tubercle in which it ends. o a like head arising in like manner from the process of the fourth dorsal vertebra. p the like from the fifth. q from the sixth. r from the seventh. s from the eighth. t from the ninth. u from the tenth. v from the eleventh. w from the twelfth.

x The like head arising from the upper and posterior part of the oblique descending process of the second vertebra of the neck. y the like from the third. z from the fourth.

α The tendinous end which inserts itself into the lower edge of the spine (near its extremity) of the first or lowermost vertebra of the loins. β that to the second. γ to the third. δ to the fourth. ε to the fifth. ζ to the first of the back. η to the second. θ to the third. ι to the fourth. κ to the fifth. λ to the sixth. μ to the seventh. ν to the eighth. ξ to the ninth. ο to the tenth. π to the eleventh. ς to the twelfth. σ that to the first or lowest vertebra of the neck. τ that to the second. υ to the third. φ to the fourth. χ to the fifth. But from these terminations all the fore said portions continue to insert themselves beneath into the lower edge of each vertebra as far as their oblique descending processes, as is represented in the uppermost extremity ψ ω.

ψ ω The uppermost tendinous end, inserted into the sixth vertebra of the neck: first into the lower edge of the spine near its extremity at ψ; and thence as far as the oblique descending process ω, terminating outwardly tendinous.

The course of the heads and tails of these portions, and the conjunction of their fibres are externally, as they appear in the figure.

And in the end that belongs to the sixth vertebra of the neck, appears the manner in which the portions from several heads, belonging to one and the same vertebra, meet together as it were in one tail, before they terminate or insert themselves. For the end ψ ω that belongs to the said vertebra, is formed of the three heads marked z. y. x; and that portion of it that comes from the nearest head z, is inserted just by the oblique process ω: next to this, the portion is inserted from the next lower head y: and next to that again at ψ, is inserted the portion from the next head x, each of them coming nearer the end of the spinal process as they are removed lower from the head. The same is also to be understood of the rest, of which only the long portions appear outwardly, as the shorter lie immediately under the longer portions.

Add here Fig. 2.

The systematic connexion appears in Tab. VIII. 14. 14. in the left side; where its uppermost end is cover'd by the lower obliquus capitis, k l in the head and neck. Then at 14. 14. in the right side, where it is also cover'd by the spinalis colli 2, and semispinalis dorsi, p in the back. Then in Tab. VII. x in the trunk; where except that part, it is covered all the way by the common head of the longissimus dorsi and sacrolumbalis, δ ε in the trunk, and the longissimus dorsi itself, ζ in the trunk; and by the spinalis dorsi, i in the trunk; and the complexus, u in the neck. But that part which is there naked in Tab. V. lies under the gluteus magnus, γ in the buttock.

FIGURE II.

The multifidus of the spine, laterally.

We have here exhibited that portion of it which is in the loins and next adjacent part of the back; in order to shew what cou'd not be seen in the first figure.

a The part which comes from the os sacrum, from the ligament detached from that bone to the os ilium, and from the os ilium itself; a b c d Fig. 1.

b The tendinous head that comes from the oblique ascending process of the first vertebra of the os sacrum. The beginning of which head lying behind the os ilium cannot be seen in this figure. But it arises from that process in the same manner as the next head c does from the oblique ascending process of the first lumbar vertebra.

c d The tendinous head arising at d from the edge of the oblique ascending process of the first vertebra of the loins, near the outer side of the oblique descending process of the second vertebra, to which it is attach'd as it ascends.

e f The like tendinous head from the oblique ascending process of the second lumbar vertebra f.

g h The like from the oblique ascending process of the third lumbar vertebra.

i k The like from the oblique ascending process of the fourth lumbar vertebra.

l m The like from the oblique ascending process of the fifth or uppermost vertebra of the loins.

n The tendinous end that belongs to the spine of the second lumbar vertebra. o that to the third. p to the fourth. q to the fifth. r that to the spine of the first or lowermost vertebra of the back. s that to the spine of the second.

t The place where it is cut off.

u v. w. x. y. z. α. β. γ Portions which may be either refer'd to the multifidus or reckoned distinct muscles. Each of them is inserted into two of the lumbar vertebrae that are next to each other: and the uppermost of them is inserted into the lowermost vertebra of the back, and the fifth or uppermost of the loins.

u v The first that arises at u from the outer part of the root of the oblique ascending process. Inserts itself at v into the lower part of the root of the tubercle, that projects betwixt the transverse and the oblique ascending process; also into the lower part of the edge of that oblique process itself. The rest are disposed in the same manner.

w x The second. w its origination. x its insertion.

y z The third. y the origin. z the insertion of it.

α β The fourth. α its origination. β its insertion.

γ The fifth. γ its origin.

But the second of them w x only can be entirely seen; since the ends of the rest are hid behind the transverse processes: the fifth has its whole upper end hid; and the first, at its origin, lies in part behind the os ilium.

Add here Fig. 1.

MUSCLES OF THE BACK AND LOINS.

FIGURE III.

The longissimus dorsi, sacrolumbalis, and cervicalis descendens.

a b The common head by which the longissimus dorsi and sacrolumbalis arise. a the tendinous part. b the fleshy part.

c d e The origin of that head from the crista or edge of the os ilium, fleshy at c, tendinous at d e. e f the part that coheres with the gluteus magnus. g h the tendinous part which arises from the two upper protuberances, at the opening in the end of the channel of the os sacrum. h i the tendinous part discontinued, formed by the tendons arising from the spines of the two lower lumbar vertebrae, and all the spines of the os sacrum.

k l m Tendons which arise from the spines of the lumbar vertebrae, k of the third, l of the fourth, m of the fifth.

n The division of the common head into the longissimus dorsi and sacrolumbalis.

o The longissimus dorsi.

p The tendinous portion of the common head, joined with that which comes from the tendons i k l, and runs thro' the longissimus externally.

q The tail ascending thro' the neck and forming the tendon r, which at last joins with the tendon of the cervicalis descendens E E. And at the same place it goes off in another tendon, belonging to the lower part of the end of the horn of the posterior transverse process of the third vertebra of the neck.

The portion given by the tendon r to the trachelomastoideus, Tab. VII. Ω in the neck, is here cut off.

Add here Fig. 5. and 6.

Under this lies partly the sacrolumbalis s. See Fig. 5.

s The sacrolumbalis.

t u v &c. Its tails belonging to the ribs; of which t. w. z. γ. ζ. ι. μ. ο. σ denote the fleshy parts; u. x. α. δ. η. κ. ν. π. τ. φ. ψ the tendons in which they end. These tendons are inserted into the ribs: v into the eleventh, y to the tenth, β to the ninth, ε to the eighth, θ to the seventh, λ to the sixth, ξ to the fifth, g to the fourth, υ to the third, χ to the second, ω to the first. The tail that belongs to the twelfth, see in Fig. 6. t.

They are inserted into the bottom part of the rough surface, that is in the outer side of the rib not far from the spine, and into the bow itself of each rib: except the two uppermost belonging to the two upper ribs; which are inserted near the tubercle χ. ω, to which is affixed the ligament tying the rib to the transverse process of the vertebra. And that belonging to the first rib is inserted in the like part ω, and also into the transverse process of the uppermost vertebra of the back.

FIFTEENTH MUSCULAR TABLE.

Add here Fig. 4.
A The *cervicalis descendens*.
B The tendinous excursion of that head of it, which arises from the sixth rib. See Fig. 4.
CCC. DD. EE Its three tendinous tails, which bend themselves round the subjacent muscles, and end CCC in the second vertebra of the neck, DD in the third, EE in the fourth; at the bottom of the end of the horn of each of their transverse processes. Those to the fourth EE are conjoined with the tendon r of the longissimus dorsi.
Under the origin of this muscle lies the sacrolumbalis. See Fig. 4. z.
Add here Fig. 4.
The *systematic connexion* appears in Tab. VII. δ — Ω in the trunk, and D in the neck, where the last tendon of the longissimus dorsi is conjoined with the tendon of the cervicalis descendens, and bends itself behind the transversalis of the neck, CC in the neck. Then in Tab. VI. x — v in the trunk, and X in the neck; where the greater part is covered by the broad tendon, by which arise the serratus posticus inferior and internal obliquus of the abdomen; over which is spread the broad tendon U by which the latissimus dorsi begins: covered also by the serratus posticus inferior CD, the rhomboides major p p q, the serratus posticus superior a b, and the levator scapulae Z. And what appears naked in the right side of that table, the same is in Tab. V. covered by the latissimus dorsi P, and the cucullaris B, in the back; except a small part there marked M.

FIGURE IV.

The sacrolumbalis with the cervicalis descendens.

a b c d e f g h i k l The tendinous tails of the sacrolumbalis cut off, which were seen entire in the third figure u. x. &c. where under them are concealed the portions coming from the ribs.
m The portion that joins the sacrolumbalis from the twelfth rib. n that from the eleventh, o from the tenth, p from the ninth, q from the eighth, r from the seventh rib.
s. s. &c. The tendinous beginnings by which those portions arise from the ribs, from their back part a little nearer the spine, than where the tails of the sacrolumbalis are inserted.
t. u. v. w. x The heads of the cervicalis descendens; of which t arises from the 6th rib, u from the 5th, v from the 4th, w from the 3d, x from the 2d.
y. y. &c. The tendons by which those heads begin and arise from the back part of the ribs, a little nearer the spine, than where the tails of the sacrolumbalis are inserted. These tendons soon produce fleshy portions, which run to a greater length inwardly than what appears outwardly.
z The cervicalis descendens so conjoined with the sacrolumbalis, that it appears a continuation of it, namely of those portions which it receives from the ribs.
 α The tendinous excursion of the first head, namely of that which comes from the sixth rib t. But in other bodies it does not run to so great a length.
 β β γ . δ δ ϵ . ζ ζ η Three tendinous tails of the cervicalis descendens, which bend themselves round the subjacent muscles: and belong β β to the second vertebra of the neck, δ δ to the third, ζ ζ to the fourth: and insert themselves into the posterior and lower part of the horn of their transverse processes γ . ϵ . η .
 θ The longissimus dorsi here cut off. See Fig. 3. n. o. From whence also the rest of this figure may be known.
Add here Fig. 3.

FIGURE V.

The longissimus dorsi.

a The longissimus dorsi.
b. c. d. e. f. g. h. i The tails which are here mostly tendinous, and inserted into the outer side of the ribs, soon after their departure from the transverse processes. b that inserted into the tenth. c to the ninth. d to the eighth. e to the seventh. f to the sixth. g to the fifth. h to the fourth. i to the third. But they grow broader as they ascend, and lie partly under each tail next following. Those inserted into the eleventh and twelfth ribs do not appear, because they lie under the muscle.
l The last of those tails which it inserts into the transverse processes of the vertebrae of the back, ending by a long tendon l, in the posterior and lower part of the end of the transverse process m, and the next part of the adjacent first rib n.
o The tail ascending thro' the neck, and here dividing itself into two tails, which form the tendons p p q. r s, which bend themselves round the subjacent muscles. The one of them p p inserts itself at q into the posterior and lower part of the end of the horn of the transverse process of the fourth vertebra of the neck: the other r s, into the same part of the third vertebra at s.
t The sacrolumbalis cut off from hence.
Add here Fig. 3; and 6.
The remaining parts of this figure are the same as in Fig. 3.

FIGURE VI.

The longissimus dorsi and sacrolumbalis.

The longissimus and sacrolumbalis are here cut off with their common head, leaving behind those portions which the common head inserts into the vertebrae of the loins and into the last rib: also those which the longissimus gives to the transverse processes of the vertebrae of the back, except that to the uppermost: those portions are also left which go to the longissimus. All which either lie under the common head, or under the longissimus.
a b. c. d. e. f. g. h. i k Five tails cut off from the common head; of which a b is inserted into the lower protuberance, that is near the back part of the

root of the transverse process of the first vertebra of the loins; c d to the second, e f to the third, g h to the fourth, (which is inserted into the lower edge of the back part of the oblique ascending process of the fourth vertebra at h), i k to the fifth. Of these b, d, f, h, k denote the tendinous parts by which they insert themselves.

l m. n. o. p q. r. s The five tails cut off from the common head; of which l m are inserted into the lower margin of the back part of the transverse process of the first vertebra of the loins, at the end of the said process: n o to that of the second, p q to that of the third, r to the fourth, s to the fifth. The two lower of these end in tendons m, o: the middle one is in part tendinous at q: the two upper are wholly fleshy.

t The broad portion which the common head of the sacrolumbalis, (whence it is cut off) here, inserts itself at u into the lower edge of the outer part of the last rib. At its origin it is conjoined with the portion s, belonging to the end of the transverse process of the fifth vertebra of the loins.

v w. x y. &c. The tails of the longissimus, which it inserts into the transverse processes of the vertebrae of the back, at the lower and back part of their extremity. v w that inserted by the longissimus dorsi into the first vertebra of the back; where w denotes the tendinous end, by which it is inserted. x y that to the second; of which y denotes the tendinous end by which it is inserted. z α that to the third, of which α denotes the tendinous end by which it is inserted. β γ that to the fourth; which is first split into two, and inserted by the common tendinous end γ . δ ϵ that to the fifth, which is also first split in two, before it is inserted by the common tendinous end ϵ . ζ η that to the sixth, in like manner split into two, and then forming the common tendinous end η by which it is inserted. θ ι that to the seventh, inserted by the tendinous end ι . To the eighth belonged two tails with tendinous ends κ λ : and the like to the ninth μ ν . To the tenth belonged only one, inserted into it by the tendinous end ξ . The like to the eleventh σ . All which are cut off from the longissimus dorsi. That tail which belongs to the transverse process of the twelfth dorsal vertebra, and the first rib, see in Fig. 5 l m.

π . ρ . σ . τ The tendinous beginnings of the heads which join to the inner part of the longissimus dorsi, arising at π . ρ . σ . τ from the upper and back part of the transverse processes of the first, second, third, and fourth dorsal vertebra, from near the edges of the said processes. υ υ υ υ the places where they are cut off.

Add here Fig. 3. and 5.

MUSCLES OF THE BACK.

Add here the interspinales dorsi like those of the loins in Fig. 11. which see.

FIGURE VII.

The spinalis of the back.

a. b. c. d. e Five tendons by which it arises from the spines of the two upper vertebrae of the loins, and three lower of the back. The lower of them a, which arises from the fourth vertebra of the loins, is the longest and thickest: the next b, from the uppermost vertebra of the loins, is shorter and more slender: the other c, is still shorter and thinner than that, and comes from the first vertebra of the back: the fourth d, comes from the second vertebra of the back: the uppermost e, from the third vertebra of the back is the shortest and slenderest. They all at length end in

f The fleshy body.

g. h. i. k. l. m. n The seven tails in which the fleshy body ends: these tails are first fleshy and afterwards tendinous at g. h. i. k. l. m. n where they go to the spines of the seven dorsal vertebrae which follow next after the uppermost, and are inserted at the edges almost of their extreme ends or tips. The lower one is the shortest and slenderest: those next above are longer and larger as they are seated higher in order. The tendinous ends are also longer and more considerable, as the tails from whence they arise are higher in order. g that belonging to the spine of the fifth vertebra of the back, h to the sixth, i to the seventh, k to the eighth, l to the ninth, m to the tenth, n to the eleventh.

The *systematic connexion* appears in Tab. VII. i in the trunk. Then in Tab. VI. α in the back; where a great part is covered by the serratus posticus inferior C, the rhomboides major p p q, and splenius colli, V in the left side. And what appears naked in that table, is in Tab. V. covered by the latissimus dorsi P, and the cucullaris B, in the back.

FIGURE VIII.

The semispinalis dorsi.

a b. c. d. e. f. g. h Four heads which are for along way tendinous at a c e g; and which arise from the posterior and upper part near the ends of the transverse processes of the third b, fourth d, fifth f, and sixth vertebra h of the back. The tendons are shorter as they are placed higher in order.

i The fleshy body.

k. l. m. n. o. p. q The seven tendons of the tails in which it ends, belonging to the lower part of the sides of the spines of the five upper vertebrae of the back, and two next of the neck, not far from the ends or tips of their spines: k that to the spinal process of the eighth dorsal vertebra, l to the ninth, m to the tenth, n to the eleventh, o to the twelfth; p to the first or lowermost of the neck, q to the second. They are longer as they go higher. But the upper tails, contrary to what they are, appear narrower in the figure on account of the perspective.

The *systematic connexion* appears in Tab. VIII. p in the back. Then in Tab. VII. a b c d e g h; where the rest is covered by the spinalis dorsi i, by the longissimus dorsi Σ , and the biverter cervicis h, in the neck. Then in Tab. VI.

z in

F I F T E E N T H M U S C U L A R T A B L E.

z in the back; where it is also covered by the splenius colli **U V**, and the splenius capitis, **P** in the neck: and what there appears naked, in the right side lies behind the rhomboides major, **p p q** in the back.

F I G U R E I X.

The intertransversarii of the back.

a b The first which arises at **a** from the fore part of the transverse process of the first dorsal vertebra, and inserts itself into the lower and back part of the transverse process of the second vertebra of the back.

c d The second which arises at **c** from the upper and back part of the transverse process of the second dorsal vertebra; and is inserted into the lower and back part of the third transverse process.

e The third, **f** the fourth, **g** the fifth, **h** the sixth, **i** the seventh, **k** the eighth, **l** the ninth. All which arise and are inserted like the second.

The lowermost of them are the largest: those which follow are smaller, and slenderer, and less fleshy, as they go higher: the uppermost of them being so slender and tendinous that they rather resemble ligaments than muscles.

The systematic connexion appears in Tab. VIII. **f. g. h. i. k. l. m. n. o** in the back, in the left side. In the right side **h** denotes the third, **i** the fourth, **k** the fifth, and **l** the sixth, in part covered by the semispinalis dorsi **q r s t**: **m** the seventh, **n** the eighth, **o** the ninth; **3. 4. 5** the spinalis colli. And what there appears naked, in Tab. VII. lies under the longissimus dorsi, **Σ** in the trunk.

M U S C L E S O F T H E L O I N S.

F I G U R E X.

The intertransversarii of the loins.

a b The first, which arises from the upper part of the transverse process of the lowest vertebra of the loins, not far from the end of its said process: and is inserted at **b** into the lower part of the second transverse process, near its end.

c d The second, arising in like manner at **c** from the upper part of the transverse process of the second vertebra, and inserted at **d** into the lower part of the transverse process of the third vertebra.

e f The third, arising in like manner at **e** from the upper part of the transverse process of the third vertebra, and inserted at **f** into the lower part of the transverse process of the fourth vertebra.

g h The fourth, arising in like manner at **g** from the upper part of the transverse process of the fourth vertebra, and inserted at **h** into the lower part of the transverse process of the fifth vertebra.

i k The fifth, arising in like manner at **i** from the upper part of the transverse process of the fifth vertebra of the loins, and is inserted at **k** into the protuberance that stands out from beneath the outer and back part of the transverse process of the lowest vertebra of the back.

The systematic connexion appears in Tab. VIII. **Ψ. Ω. α. β. γ** in the loins: which in Tab. VII. lies behind the common origin of the sacrolumbalis and longissimus dorsi, **δ ε** in the trunk.

F I G U R E X I.

The interspinalis of the loins, on one side.

We have here exhibited only one of them, which is that arising from the spinal process of the second lumbar vertebra, and inserted into that of the third.

a a The tendinous beginning that springs from the eminence in the spine at the bottom of the lower oblique process, and is continued from thence almost to the end of the spine.

b The tendinous end inserted into the lower part of the side of the spine, below the eminence before mentioned.

The like muscles are placed betwixt the rest of the spines of the lumbar vertebrae: and also betwixt the spines of the uppermost lumbar vertebra, and the last of the back.

The systematic connexion appears posteriorly in Tab. VIII. **Θ. Λ. Ε. Π. Σ. Φ** along the spine; where laterally the multifidus lies near them on each side **14**: and in Tab. VII. But their edges or back part lies behind the broad tendon, by which the ferratus posticus inferior, and internal obliquus of the abdomen arise, over which tendon again is spread, the broad tendon by which the latissimus dorsi begins, **U** Tab. VI. in the trunk.

The interspinales dorsi are like those of the loins, only less, and found betwixt the lower spines of the dorsal vertebrae.

The systematic connexions of the interspinales of the back, are also exhibited in Tab. VIII. **Γ Δ** along the spine; where the multifidus **14**. lies at the side of them. These also have their back parts or edges placed behind the broad tendon, by which the ferratus posticus inferior, and internal obliquus of the abdomen arise; over which again is spread the broad tendon, whereby the latissimus dorsi begins, **U** Tab. VI. in the trunk.

F I G U R E X I I.

The quadratus lumborum, viewed in its fore part.

a a The tendinous beginning which arises at **a a** from the upper and inner part of the crista or edge of the os ilium, almost from the posterior half of its length, divided in the middle; and at **b** it arises from the ligament that goes across from the transverse process of the lowest lumbar vertebra to the os ilium.

c c The broad tendinous end that is inserted into the inner part of the lower edge of the twelfth rib, not far from its first head.

d e The small tendinous end that is inserted at **e** into the side of the body of the lowest vertebra of the back, near the last rib.

Add here Fig. 13.

The systematic connexion appears in Tab. IV. **p** in the trunk; where the rest of it is covered by the psoas magnus **t**, lies hid behind the diaphragm **T S R** in the trunk, and **Ψ R**.

f The ligament that runs across from the transverse process of the lowest lumbar vertebra to the os ilium.

F I G U R E X I I I.

The quadratus lumborum, viewed in its back part.

a Part of its origin from the ligament that goes across from the transverse process of the lowest lumbar vertebra to the os ilium.

b c. d e. f g. h i Tendinous portions inserted into the lower part of the ends of the transverse processes; **c** to the second, **e** to the third, **g** to the fourth, **i** to the fifth of the lumbar vertebrae.

k. l. m. n Heads which arise tendinous from the upper part of the ends of the transverse processes, **k** of the second, **l** of the third, **m** of the fourth, **n** of the fifth of the vertebrae of the loins. The flesh in which they end is then joined to the back part of the muscle, as in the uppermost of them **n**, so in the rest, before the transverse processes.

Add here Fig. 12.

The systematic connexion appears in Tab. VIII. **δ** in the loins; where in part it lies under the intertransversarii of the loins **Ψ. Ω. α. β. γ**. And what there appears naked is covered by the tendinous beginning of the transversalis of the abdomen, over which again is spread the common tendinous origin of the obliquus internus of the abdomen, and ferratus posticus inferior, also by the common head of the sacrolumbalis and longissimus dorsi, **δ ε** in the trunk Tab. VII.

o The ligament that is extended across from the transverse process of the lowest lumbar vertebra to the os ilium.

The systematic connexion appears in Tab. VIII. **ζ** in the loins.

F I G U R E X I V.

The psoas parvus.

a The tendinous beginning by which it adheres at **b** to the lower margin of the body of the lowest vertebra of the back, on one side; and likewise to the ligament **c**, interposed betwixt the body of that dorsal and the uppermost lumbar vertebra; and also at **d** from the superior margin of the uppermost vertebra of the loins.

f The other tendinous beginning, adhering at **e** to the lower margin of the uppermost lumbar vertebra, and at **f** to the intervening ligament next following below.

g The tendon which it forms, and which begins about the middle part of the length of the loins. From thence the tendon bends itself to the psoas magnus. **i** the broad end by which it inserts itself into the margin of the os ischium, where it forms part of the upper rim of the pelvis before the os ilium, near the spine **k**, that is in the said rim above the great foramen.

11 Along this part the aponeurosis is cut off, that goes from this tendon and invests the psoas magnus, with the iliacus internus in their fore part, as they pass before the ischium.

The systematic connexion appears in Tab. IV. **r s** in the trunk; where at its origin it lies hid behind the diaphragm **R**: and in its end behind the psoas magnus **t**.





THE SIXTEENTH ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

MUSCLES OF THE NECK.

Add here the *cervicalis descendens*, Tab. XV. Fig. 3. A. and Fig. 4. z.

FIGURE I.

The splenius colli.

a b The tendinous head that arises at b from the side of the end of the spinal process of the ninth vertebra of the back.

c d The tendinous head that arises from the side of the end of the spinal process of the tenth dorsal vertebra: and which is shorter than the preceding.

e The fleshy belly.

f g h The end that is first fleshy at f, then tendinous at g, and belongs at h to the back part of the end of the posterior tubercle of the transverse process of the fifth vertebra of the neck.

i k l The end that is first fleshy at i, then tendinous at k, and is inserted at l into the lower part of the end of the transverse process of the sixth vertebra of the neck.

m n o The end which is first fleshy at m, then tendinous at n, and is inserted at o into the fore part of the tip that is most prominent at the transverse process of the seventh vertebra of the neck.

The *systematic connexion* appears in Tab. VI. T U V in the left side of the neck and back: where, for the most part it is covered by the upper serratus posticus æ b, and the elevator of the scapula Z. Then in the right side of the neck and back in the same table; where it is also covered by the elevator of the scapula Z, and by the serratus posticus superior æ b, and in its lower part by the rhomboides major p p q; and that part of it which there appears naked, is in Tab. V. placed under the cucullaris B in the neck and back. But laterally part of it appears naked in Tab. IX. φ in the neck, where the rest of it is covered by the cucullaris ω, and its upper end lies under the sternocleidomastoideus g.

FIGURE II.

The interspinales of the neck, a posterior view.

a b The first, which springing from the side of the upper part of the spine of the lowest cervical vertebra at a, near the end of its tubercle, goes to the lower and inner part b, of the horn of the second vertebra.

c d The second, which arising from the upper part of the horn of the second cervical vertebra, goes to the lower and same inner part of the third vertebra.

e f The third, which springing from the upper part of the horn of the third cervical vertebra at e, goes to the lower and same inner part of the fourth.

g h The fourth, which springing from the upper part of the horn of the 4th cervical vertebra at g, goes to the lower and same inner part of the 5th h.

i k The fifth, which arising from the upper part of the horn of the fifth cervical vertebra at i, goes to the lower and same inner part of the 6th vertebra k.

Add here Fig. 3.

The *systematic connexion* appears in Tab. VIII. n. o. p. q. r in the left side of the neck. Then in the right side; where the three upper n o p, in part lie under the spinalis colli z. Then in Tab. VII. p. q. r. s. t in the neck; where also the three uppermost r s t, lie partly under the spinalis colli o; and the uppermost t, under the biventer cervicalis l. And what there appears naked in Tab. VI. lies under the splenius capitis P, in the neck: the uppermost is also in part uncovered by that muscle just below O; and in Tab. V. it lies under the cucullaris B in the neck and back.

FIGURE III.

The interspinales of the neck, laterally.

a b The first. b its origin from the side of the upper part of the spine of the lowest vertebra of the neck, near the end of its tubercle.

c The second. d the third. e the fourth. f the fifth. g &c. The origin of each from the upper part of the horn of the spine.

The insertion cannot be seen, as lying behind the horn of the spine.

Add here Fig. 2.

FIGURE IV.

The middle scalenus, in its back part.

a a The origin from the first rib.

b The head joining it from the upper part of the end of the transverse process of the first or lowest vertebra of the neck. c the other head from the upper part of the end of the posterior tubercle of the transverse process of the 2d vertebra.

d. e. f. g. h. i. k. l The extremities inserted into the transverse processes of the vertebrae of the neck, d of the first, e of the second, f of the third, g of the fourth, h of the fifth, i of the sixth, by a tendinous end; k l of the seventh, chiefly tendinous at k, but partly fleshy at l.

Add here Fig. 5.

The *systematic connexion* appears in Tab. VIII. s &c. in the neck; where below it is covered by the elevator of the first rib x: above by the sixth intertransversarius in the back part of the neck δ. Then in Tab. VII. E in the neck; where it is also covered by the scalenus posticus F G H, the cervicalis descendens D, and by the supreme tendon of the longissimus dorsi, the transversus cervicalis C, and the trachelomastoideus z: and what is there uncover'd, in Tab. VI. lies under the elevator of the scapula, Z in the neck. But laterally it appears in Tab. IX. χ in the neck.

FIGURE V.

The middle scalenus, in its fore part.

a The tendinous part of its beginning, by which it arises from the first rib at b b, occupying the whole height of the said rib.

c d The first tail, inserted by a tendinous end into the anterior and lower part of the transverse process of the lower vertebra of the neck.

e f The second tail, inserted by a tendinous extremity into the lower part of the end of the posterior tubercle, and at the end of the lunar edge of the transverse process of the second cervical vertebra.

g h The third tail, h the tendinous end belonging to the end of the lunar edge of the third cervical vertebra.

i k The fourth tail, inserted by the tendinous end k into the extreme lunar edge of the fourth cervical vertebra.

l m The 5th tail, inserted by the tendinous end m into the extreme lunar edge, and into the bottom of the anterior tubercle of the fifth vertebra of the neck.

n o The sixth tail, belonging by the tendinous end o, to near the extremity of the process of the sixth vertebra.

p q r The seventh tail, with an extremity inserted partly fleshy p, and partly tendinous q, at the fore part of the lower edge of the transverse process r, of the atlas, about the middle of its length.

Add here Fig. 4.

The *systematic connexion* appears in Tab. IV. β γ &c. in the neck; where at its origin it lies behind the clavicle, and has also a large part covered by the anterior scalenus Π &c. And then at its insertion behind the larger rectus capitis internus Γ. Then in Tab. II. o o in the neck; covered by the coracohyoideus α near the clavicle, and the sternomastoideus λ. And what appears naked in that table, in Tab. I. lies behind the latissimus colli Ω &c. in the neck.

FIGURE VI.

The longus colli.

a The tendinous head by which it arises at b from the middle of the lateral part of the body of the tenth dorsal vertebra.

c The tendinous part of the head, by which it arises from the body of the twelfth dorsal vertebra. See Fig. 7. c.

d The part from which the lower portion of the muscle on the outer side is formed, going a little obliquely to one side, and forming one tail e f, partly fleshy e, and partly tendinous f, and ending at g in the lower part of the anterior tubercle of the transverse process of the second vertebra of the neck.

h The other principal part of the muscle, belonging to the bodies of the vertebrae.

i k The first of those heads, which join the principal portion of the muscle from the transverse processes: springing by a tendinous origin i, from the upper and inner part of the anterior tubercle of the transverse process of the 2d cervical vertebra, that is towards the body of the vertebra. k the fleshy part.

l m The second head, springing by a tendinous origin from the upper and inner part of the anterior tubercle of the 3d cervical vertebra. m the fleshy part.

n o The third head, springing by a tendinous origin n, from the same part of the tubercle of the fourth vertebra. o the fleshy part.

p q The fourth head, springing by a tendinous origin from the same part of the tubercle of the fifth vertebra. q the fleshy part.

r The tendinous part, inserted by the extremities into the body of the sixth vertebra of the neck.

t The tendinous tail, inserted at u into the lower part of the tubercle of the atlas, which is fixed in the middle of its fore part.

Add here Fig. 7.

The *systematic connexion* appears in Tab. IV. t &c. in the neck. Then in Tab. III. Δ Θ in the neck; where it is in part covered by the larger rectus internus capitis Γ; lies partly behind the lower constrictor of the pharynx ω; and is in part hid behind the sternothyroideus π &c. But what appears naked in that table, in Tab. II. lies hid behind the sternomastoideus η λ in the neck.

FIGURE VII.

The heads and tails of the longus colli.

a b The tendinous head, by which it arises from the middle of the lateral part of the body of the tenth dorsal vertebra. b the place where it is cut off. It is marked a b in Fig. 6.

c d The head, which springs by a tendinous origin from the middle of the lateral part of the body of the 11th dorsal vertebra. d the fleshy part cut off.

e f The head, which arises by a tendinous beginning at e from the middle of the lateral part of the body of the 12th dorsal vertebra. f the fleshy part cut off.

g h The tendinous head, which arises at g from about the middle of the lateral part of the body of the 1st vertebra of the neck. h the place where 'tis cut off.

i k The tendinous head, which arises at i from about the middle of the lateral part of the body of the 2d cervical vertebra. k the place where 'tis cut off.

l m The head, which arises tendinous at l from the beginning of the first rib. m the fleshy part cut off.

n o The head, which arises tendinous at n from the upper and inner part of

[D d]

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the anterior tubercle (next the body of the vertebra) belonging to the transverse process of the second cervical vertebra. *o* the fleshy part cut off. It is marked *i k* in Fig. 6.

p q The head, which arises tendinous at *p* from the upper and inner part of the anterior tubercle (that is next the body of the vertebra) belonging to the transverse process of the third vertebra of the neck. *q* the fleshy part cut off. It is marked *l m* in Fig. 6.

r s The head, which arises in like manner tendinous at *r* from the anterior tubercle of the transverse process of the fourth cervical vertebra. *s* the fleshy part cut off. It is marked *n o* in Fig. 6.

t u The head, which arises in like manner tendinous at *t* from the anterior tubercle of the transverse process of the fifth cervical vertebra. *u* the fleshy part cut off. It is that marked *p q* in Fig. 6.

v w The tendinous tail, which is inserted at *v* into the body of the third cervical vertebra, in the anterior and lateral part of it not far from its lower margin. *w* the place where it is cut off.

x y The like tendinous tail, inserted in like manner at *x* into the body of the fourth vertebra. *y* the place where it is cut off.

z α The tail, inserted by a tendinous end *z* into the body of the fifth vertebra, like the preceding. *α* the fleshy part that is cut off.

β γ The like tail, but much more considerable, inserted by a broader tendinous end about the middle of the height of the fore part of the body of the sixth vertebra, laterally. *γ* the fleshy part that is cut off.

δ ε The tail, which is inserted by the tendinous end *δ* into the lower part of the tubercle of the atlas, which is fixed in the middle of the fore part of it. *ε* the fleshy part cut off together with its tendinous part. It is marked *t u* in Fig. 6.

ζ η θ The tail, which is inserted at *ζ* into the lower part of the anterior tubercle of the transverse process of the second vertebra of the neck. It consists of the fleshy part *η*, and the tendinous part *θ*, both of them cut off. It is that marked *e f g* Fig. 6.

ι κ The tendinous tail, belonging at *ι* to the fore part of the root of the spine, that is near the fore part of the transverse process of the first cervical vertebra. *κ* the place where 'tis cut off.

Add here Fig. 6.

FIGURE VIII.

The anterior intertransversarii of the neck.

a b The first, which arises at *a* from the eminence that is in the first cervical vertebra, at the anterior root of its transverse process: and is inserted at *b* into the lower and fore part of the root of the tubercle, and also into the anterior tubercle itself of the second transverse process.

c d The second, whose origin is from the upper and back part of the anterior tubercle and root of the transverse process of the second vertebra, which here lies behind the said tubercle so as to be hid from the view: but see *a* in Fig. X. It is inserted into the lower and fore part of the root and anterior tubercle itself of the third vertebra.

e f The third, whose origin, like that of the second, is not to be seen. *f* its insertion into the fourth vertebra, like that of the second into the 3d vertebra.

g h The fourth. Its origin is also concealed. *f* its insertion into the fourth vertebra, like that of the second into the third vertebra.

i k k The fifth. Its origin is likewise concealed. *i* the tendinous part. *k k* its insertion into the lower part of the root of the transverse process of the sixth vertebra, (and into the edge of its fore part) that sustains the atlas; also into the next adjacent part of its body, immediately below the fore said edge.

l m n The sixth, which arises at *l* from the fore part of the anterior root of the transverse process of the sixth vertebra; and is inserted at *m* into the bottom of the anterior margin of the root of the transverse process of the seventh vertebra. *n* the tendinous part of its origin.

Add here Fig. 10.

The *systematic connexion* appears in Tab. IV. *ξ* the fourth, *ο* the third, *π* the second, *ε* the first in the neck; where in part they lie under the tails of the middle scalenus *μ. λ. ι. η.* and first under the tails of the longus colli *z α*, belonging to the transverse process of the second cervical vertebra; also the second, third, and fourth of the heads of the said longus, which arise at *x. w. v* from the transverse processes of the vertebrae of the neck. Then in Tab. III. first *Δ* in the neck, where it also in part lies under the tail *Θ* of the longus colli, belonging to the transverse process of the second vertebra of the neck; and also under the tail *Φ* of the anterior scalenus: but the other three are hid behind the larger rectus internus capitis *Γ*.

FIGURE IX.

The posterior intertransversarii of the neck.

a b The first, which arises tendinous at *a* from the same upper and anterior part of the transverse process of the first cervical vertebra. It is inserted at *b* into the lower and back part of the posterior tubercle and adjacent extremity of the lunar margin of the second vertebra.

c d The second, which arises tendinous at *c* from the upper part of the posterior tubercle of the transverse process of the second cervical vertebra. It is inserted at *d* into the lower and back part of the posterior tubercle and lunar margin of the third vertebra.

e f The third, which arises tendinous at *e* from the third cervical vertebra, like second from the second vertebra: and is inserted at *f* into the fourth, as the second into the third vertebra.

g h The fourth, which arises also by a tendinous beginning at *g* from the fourth vertebra, as the second from the second: and is inserted at *h* into the fifth vertebra, as the second is into the third vertebra.

i k The fifth, which also arises tendinous at *i* from the fifth vertebra, as the second does from the second vertebra: and is inserted at *k* into the lower and posterior part of the transverse process of the sixth vertebra.

l m The sixth, which arises tendinous at *l* from the upper part of the end of

the transverse process of the sixth vertebra. It is inserted at *m* into the lower part of the extremity of the seventh transverse process, near its fore part.

Add here Fig. 16. *r.* and Fig. 18. *q r.*

The *systematic connexion* appears in Tab. IX. where they lie behind the anterior intertransversarii *ξ. ο. π. ε* in the neck, and the tails of the middle scaleni *μ. λ. ι. η.* In their back part they appear in Tab. VIII. *δ. ε. ζ. η. θ. ι.* in the neck; where the sixth *δ* lies in part behind the lower obliquus capitis *k*.

n n The anterior tubercles of these vertebrae here cut off, that the intertransversarii may appear entire.

FIGURE X.

The fourth anterior intertransversarius colli.

It is here represented laterally and apart, that its origin might be seen. After the same manner with this arise the second, third, and fifth.

a The origin from the upper and back part of the anterior tubercle, and root of the transverse process of the fourth vertebra of the neck.

Add here Fig. 8.

FIGURE XI.

The anterior scalenus.

a The tendinous beginning, by which it arises from the upper edge of the first rib, not far from its cartilage.

b c The first tail, which is the broadest, inserted by the tendinous end *c* into the lower part of the anterior tubercle of the transverse process of the second vertebra of the neck: and is also continued to the lunar edge of the lowest or first cervical vertebra.

d e The second tail, which is narrower than the first; and inserted by the tendinous end *e* into the transverse process of the third cervical vertebra, as the first was into the second.

f g The third tail, which is still narrower than the second, inserted by the tendinous end *g* into the lower lunar edge, and next adjacent part of the anterior tubercle of the transverse process of the fourth cervical vertebra.

The *systematic connexion* appears in Tab. III. *Π Σ &c.* in the neck; where below it is seated behind the clavicle: the insertion of its end is behind the larger rectus internus capitis *Γ*, and extremity of the longus colli *Θ*, belonging to the transverse process of the second vertebra of the neck. Then in Tab. II. *ε* in the breast; where the rest of it lies behind the clavicle, the coracohyoideus *α* in the neck, and the sternocleidomastoideus *η λ*. And what appears naked of it in that table, is in Tab. I. seated behind the pectoralis *ξ* in the trunk.

FIGURE XII.

The posterior scalenus.

a b The tendinous beginning, by which it springs from the outer part of the upper edge of the second rib, betwixt that part of it that is fixed to the transverse process, and that which forms the curvature forwards.

b c The first tail, inserted by the tendinous end *c* into the end of the posterior tubercle of the transverse process of the second vertebra of the neck.

d e The second tail, inserted by the tendinous end *e* into the extremity of the posterior tubercle of the transverse process of the 3d vertebra of the neck.

The *systematic connexion* appears in Tab. VIII. *F G H* in the neck and trunk; where at its insertion it lies behind the cervicalis descendens *D*, and the transversus cervicalis *C C*. But the rest in Tab. VI. is covered by the elevator scapulae *Z* in the neck.

FIGURE XIII.

The elevator scapulae, in its fore part.

a a The tendinous beginning, by which it springs from the margin of the scapula, just above the beginning of its spine.

b The inner part of it, *c* the outer part.

d e The first tail, inserted by the tendinous end *e* into the extremity of the posterior horn of the transverse process of the fourth vertebra of the neck.

f g The second tail, inserted by the tendinous end *g* into the extremity of the posterior horn of the transverse process of the fifth vertebra.

h i The third tail, inserted by the tendinous end *i* into the lower and fore part of the end of the transverse process of the sixth vertebra.

k l The fourth tail, which is thicker than the rest, and inserted by the tendinous end *l* into the anterior and lower part of the transverse process of the seventh vertebra, betwixt the root and extremity of the said process.

The tails are each longer as they are higher.

Add here Fig. 14.

The *systematic connexion* appears in Tab. II. *π* in the neck; where the rest lies behind the clavicle, and the coracohyoideus *α* above the clavicle, and the sternocleidomastoideus *λ*. In Tab. I. it lies behind the cucullaris *ψ* in the neck and trunk.

FIGURE XIV.

The elevator of the scapula, in its back part.

a The tendinous beginning, by which it springs from the edge of the scapula, and which it forms just above the first beginning of its spine.

b The inner part of the fourth tail, at last tendinous.

Add here Fig. 13.

The *systematic connexion* appears in Tab. VI. *Z* in the neck; where its insertion lies hid behind the splenius capitis *P*. Then in Tab. V. *A* in the neck; where the rest is covered by the cucullaris *B*, and sternocleidomastoideus *u*; and there concealed also behind the splenius capitis *z*. Then laterally in Tab. IX. *ψ* in the neck; where likewise the rest lies under the cucullaris *ω*, and sternocleidomastoideus *ε*.

FIGURE XV.

The spinalis colli.

a b The first tendinous head, arising at *b* from the posterior and upper part of the transverse process of the seventh vertebra of the back, at the tubercle in which its root ends.

c d

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c d The second head, e f the third, g h the fourth, i k the fifth, l m the sixth: which arise in the same manner from the eighth vertebra d, from the ninth f, from the tenth h, from the eleventh k, and the twelfth m.

They are each of them shorter as they are higher.

n. o. p. q. r The ends, which insert themselves into the side of the lower edge of the end of the spine of the second vertebra of the neck n, of the third o, of the fourth p, of the fifth q, and the sixth r. The portion or end inserted into the sixth is thicker. They lie one upon the other, whence it is that only the uppermost can be entirely seen in the figure.

The *systematic connexion* appears in Tab. VIII. 2 &c. in the back and neck. Then in Tab. VII. o o in the neck and trunk; where it is also covered by the biventer cervicis l i &c. and by the complexus u, with the longissimus dorsi Ψ Σ . Then in Tab. VI. where it is not distinct from the semispinalis dorsi z in the back: the rest lies under the splenius colli T in the neck, and splenius capitis P in the neck; also behind the serratus posticus superior a b in the back; and where it appears not covered by the semispinalis dorsi, z in the left side: in the right side it lies under the rhomboides major p p q in the back.

FIGURE XVI.

The transversalis of the neck, in its back part.

a b The first tendon, by which it arises at b from the upper and back part of the transverse process of the seventh vertebra of the back near its extremity.

c d e f The outer part of the muscle. d the tendon which is marked d Fig. 18. e the tendon that is marked f Fig. 18. f the tendon that is marked k Fig. 18.

g h i k l m n o p The inner part of the muscle.

g h i The head, springing by a tendinous origin at h from the posterior part of the oblique ascending process of the first or lowest vertebra of the neck, at the outer side of the oblique descending process of the second vertebra. i the flesh in which it ends.

k l m The head, which springs by a tendinous origin k from the back part of the oblique ascending process of the second cervical vertebra, at the outer side of the oblique descending process of the third vertebra. m the flesh in which it ends.

n o p The head, that springs by a tendinous origin n from the back part of the oblique ascending process of the third cervical vertebra o, at the outer side of the oblique ascending process of the fourth vertebra. p the flesh in which it ends.

q The tendinous end, which being conjoined with the sixth posterior intertransversarius colli r, is inserted into the anterior and lower part of the transverse process of the atlas.

Add here Fig. 17. and 18.

The *systematic connexion* appears in Tab. VII. C C in the neck; where it also lies under the longissimus dorsi Ψ , the cervicis descendens D, and the trachelomastoideus z. Then in Tab. VI. Y in the neck; where it also lies under the serratus posticus superior a b, and the elevator of the scapula Z, with the longissimus dorsi X: above it also lies hid behind the splenius colli T, and splenius capitis P. And what appears naked in that table (i. e. VI.) in Tab. V. lies under the cucullaris B in the neck and back.

r The sixth posterior intertransversarius of the neck.

Add here Fig. 18. p q r. and Fig. 9. l m.

FIGURE XVII.

The first five heads of the transversalis colli.

a b The first tendinous head, arising from the upper and back part of the transverse process of the eighth vertebra of the back, near its end. b the place where it is cut off. It is marked a b in Fig. 16.

c The second tendinous head, arising in the same manner from the ninth vertebra.

d e The third, arising from the tenth vertebra, d the tendinous beginning, afterwards forming the flesh e.

f g The fourth head, arising from the eleventh vertebra by the tendinous beginning f, ending in the flesh g.

h i The fifth head, arising from the twelfth vertebra in like manner by the tendinous beginning h, and then forming the flesh i.

They are all cut off, like the first; and lie under the muscle in Fig. 16.

Add here Fig. 16. and 18.

FIGURE XVIII.

The transversalis colli, laterally.

a The lower part to be observed in Fig. 16.

b c The first tendon, inserted at c into the lower and back part of the posterior horn of the end of the transverse process of the second cervical vertebra.

d e The second tendon, inserted at e into the third cervical vertebra, as the first is into the second.

f g The third tendon, inserted at g into the fourth vertebra, like the first into the second.

h i The fourth tendon, inserted at i into the fifth vertebra, like the first into the second.

k l The fifth tendon, inserted at l into the lower and back part of the end of the sixth transverse process.

These tendons run from the external part thro' the belly of the muscle, and are lodged therein almost to the extremity of the flesh.

m The end, which conjoins itself with the sixth posterior intertransversarius colli at n, and is therewith inserted by the tendinous end o, into the lower and fore part of the transverse process of the atlas.

Add here Fig. 16. and 17.

p The beginning of the sixth posterior intertransversarius colli, from the upper part of the end of the transverse process of the sixth cervical vertebra.

q r The back part of the sixth posterior intertransversarius colli, with which is conjoined the end of the transversalis. r the tendinous end.

Add here Fig. 16. r. and Fig. 9. l m.

MUSCLES OF THE HEAD AND NECK.

FIGURE XIX.

The rectus major internus capitis.

a The first head, arising from the upper and fore part of the anterior tubercle of the transverse process of the second cervical vertebra.

b The tendinous part by which the flesh is covered.

c c The end, inserted into the lower edge of the occipital bone that is towards the os petrosum, almost at the opening by which the eighth nerve of the head passes out, almost as far as the multiform bone.

d Part of the occipital bone that is before the great foramen.

e The lunar edge of the occipital bone, that belongs to the opening thro' which pass out the internal jugular vein, with the eighth nerve of the head.

Add here Fig. 20.

The *systematic connexion* appears in Tab. III. T in the neck. Then in Tab. II. ξ in the neck; where in part it lies behind the sternomastoideus $\eta \lambda$. In Tab. I. the part does not appear that is seen in Tab. II. as being covered by the latissimus colli Ω .

FIGURE XX.

The heads of the rectus internus capitis major.

a b The first head, wholly fleshy, arising from the upper and fore part of the anterior tubercle of the transverse process of the second cervical vertebra: b the place from whence it is cut off. It is marked a Fig. 19.

c d The second head, arising by a tendinous beginning c from the third vertebra, as the first does from the second. d the fleshy part cut off, together with its tendinous part.

e f The third head, arising by a tendinous beginning from the fourth vertebra, as the first does from the second. f the fleshy part cut off, together with the tendinous part.

g h The fourth head, arising by a tendinous beginning g from the fifth vertebra, like as the first does from the second. h the fleshy part cut off.

The second, third, and fourth head lie under the belly of the muscle in its posterior ascending parts.

Add here Fig. 19.

FIGURE XXI.

The trachelomastoideus, laterally.

a b The tendinous beginning of the first head, arising at b from the transverse process of the tenth dorsal vertebra.

c d The tendinous beginning of the second head, arising at d from the transverse process of the eleventh dorsal vertebra.

e f The tendinous beginning of the third head, arising at f from the transverse process of the twelfth dorsal vertebra.

g h The tendinous beginning of the fourth head, arising at h from the upper and back part of the transverse process of the first or lowest cervical vertebra, near the oblique ascending process.

i k The tendinous beginning of the fifth head, arising at k from the oblique ascending process of the second vertebra of the neck; from the outer and back part of the root of the said process, whence it is continued almost as far as the beginning of the transverse process.

l m The tendinous beginning of the 6th head, arising at m from the oblique ascending process of the third cervical vertebra, as the fifth head does from the second vertebra.

n o The tendinous beginning of the 7th head, arising at o from the oblique ascending process of the fourth cervical vertebra, as the fifth head does from the second vertebra.

The origin of the fifth, sixth, and seventh heads, from the oblique descending processes cannot here be seen, but may be observed in Fig. 22.

p The tendinous part. See Fig. 22. n.

q The tendinous end, inserted at r into the posterior edge of the mastoide process.

Add here Fig. 22.

FIGURE XXII.

The trachelomastoideus, in its back part.

a b The tendinous beginning of the first head, arising at b from the upper and back part, almost of the extremity of the transverse process of the tenth dorsal vertebra.

c d The tendinous beginning of the second head, arising at d from the eleventh dorsal vertebra, as the first head does from the tenth vertebra.

f The tendinous beginning of the third head, arising in like manner at f from the twelfth vertebra of the back.

Near g is the tendinous origin of the fifth head, arising from the back part of the outer lateral edge of the oblique descending process of the 3d vertebra of the neck: and below that from the oblique ascending process of the 2d vertebra.

Near h i is the tendinous beginning of the sixth head, arising at h from the back part of the external lateral edge of the oblique descending process of the fifth cervical vertebra: and below that from the oblique ascending process i of the third vertebra.

k l m The tendinous beginning of the seventh head, arising at l from the back part of the outer lateral edge of the oblique descending process of the fifth cervical vertebra: and below that from the oblique ascending process of the fourth vertebra m.

n The tendinous portion.

o The tendinous end, inserted at p into the posterior edge of the mastoide process.

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Add here Fig. 21.

The *systematic connexion* appears in Tab. VII. z &c. in the neck; where it is covered by a portion of the longissimus dorsi Ψ , and transversalis colli C. Then in Tab. VI. W in the neck; where it also lies under the serratus posticus superior æ b, the elevator scapulæ Z, and part of the longissimus dorsi X, splenius colli T, and splenius capitis P: and what there appears naked, in Tab. V. lies under the cucullaris B in the neck and back. Anteriorly it appears in Tab. III. E in the left side of the neck; where it lies behind the middle scalenus E, and complexus E'. And what there appears naked is in Tab. II. seated behind the sternomastoideus A in the neck, and biventer of the lower jaw y.

FIGURE XXIII.

The biventer cervicalis and complexus, posteriorly.

- a b c d e f g h i k l m n o p p The *biventer cervicalis*.
a b The tendinous beginning of the first head, arising at b from the posterior and upper part of the tubercle, in which the transverse process of the sixth dorsal vertebra terminates.
c d The tendinous beginning of the second head, arising like the former, from the seventh dorsal vertebra.
e f The beginning of the third head, arising in like manner at f from the eighth dorsal vertebra.
g h The beginning of the fourth head, arising in like manner at h from the ninth vertebra.
i k The beginning of the fifth head, arising in like manner at k from the tenth vertebra.
l The portion or head that joins the biventer cervicalis, arising from the side of the spine of the 12th dorsal vertebra. It joins to the middle tendon and belly.
m The middle tendon, betwixt the bellies.
n The tendinous portion of the second belly.
o The extremity that is outwardly tendinous, and inserted at p p into the back part of the occipital bone, at the side of its middle, a little lower than where the cucullaris begins.

Add here Fig. 24. a b c d e f g g.

The *systematic connexion* appears in Tab. VII. f--n in the neck and trunk; where below it is cover'd by the longissimus dorsi Ψ , and transversus colli. Then in Tab. VI. M N in the neck, and y in the back; where it is covered by the splenius capitis P, the splenius colli T U V, and serratus posticus superior æ b: and what there appears naked in the lower part of the left side at y, the same is in the right side covered by the rhomboides major p p q. Then in Tab. V. y in the neck; where the rest of it is covered by the splenius capitis z, the cucullaris C, and sternocleidomastoideus x.

q r s t u v w x The *complexus cervicalis*.

- q r The tendinous beginning of the first head, arising at r from the posterior and upper part of the transverse process of the tenth dorsal vertebra, near its end.
s t The tendinous beginning of the second head, arising in like manner at t from the eleventh vertebra of the back.
u v The tendinous beginning of the third head, arising in like manner at v from the twelfth or uppermost dorsal vertebra.
w The tendinous portion, which enters at
x The biventer, and is conjoined and inserted therewith.

Add here Fig. 24. h--x.

The *systematic connexion* of the complexus appears in Tab. VII. u v in the neck and trunk; where, as here, a great part of it lies behind the biventer f--n, and trachelomastoideus z A, with the transversus cervicalis, and longissimus dorsi Ψ . Those parts of it which appear naked in the said Tab. VII. lie behind the splenius capitis P, and splenius colli T, Tab. VI. in the neck. Anteriorly it appears in Tab. III. E in the left side of the neck; where it is covered by the obliquus superior capitis E; and what is there uncovered, is in Tab. II. seated behind the biventer of the lower jaw y in the neck.

FIGURE XXIV.

The biventer cervicalis and complexus, laterally.

- a b c d e f g g The *biventer cervicalis*.
a The lower part, to be observed in Fig. 23.
b c The portion or head that joins the biventer, arising at c from the side of the spine of the 12th dorsal vertebra, near the tip or end of the said spine.
d The middle tendon, betwixt the bellies.
e The tendinous portion of the second belly.
f The extremity that is outwardly tendinous, and inserted at g g into the back part of the occipital bone, at the side of its middle, a little lower than where the cucullaris begins.

Add here Fig. 23. a--p.

The *systematic connexion* appears in Tab. IX. τ in the head and neck; where it is covered by the splenius capitis v, the splenius colli ϕ , the cucullaris Γ ω , and sternocleidomastoideus ξ σ .

h i k l m n o p q r s t u v w x x The *complexus*.

- h i The tendinous beginning of the first head, arising at i from the posterior

and upper part of the transverse process of the tenth dorsal vertebra, near its extremity.

k l The tendinous beginning of the second head, arising in like manner at l from the eleventh dorsal vertebra.

m n The tendinous beginning of the third head, arising in like manner at n from the twelfth or uppermost vertebra of the back.

o p The tendinous beginning of the fourth head, arising at p from the posterior and upper part of the transverse process of the first or lowermost vertebra of the neck, near its oblique ascending process.

q r The tendinous beginning of the fifth head, arising at r from the outer and back part of the root of the oblique ascending process of the 2d vertebra of the neck, whence it is continued as far as the root of the transverse process.

s t The tendinous beginning of the sixth head, arising in like manner at t from the oblique ascending process of the third cervical vertebra.

u v The tendinous beginning of the seventh head, arising at v in the same manner from the oblique ascending process of the fourth cervical vertebra.

The origin of the fifth, sixth, and seventh heads of this muscle, from the external lateral edge of the oblique descending processes of the third, fourth, and fifth cervical vertebra, cannot be seen in this figure.

w The tendinous portion of the belly.

x x The place where the complexus passes under the biventer, and afterwards joins and inserts itself therewith just below it.

Add here Fig. 23. q--x.

FIGURE XXV.

The sternocleidomastoideus, anteriorly.

- a The *sternomastoideus*.
b The tendinous beginning, by which it arises at c c from the anterior and upper part of the sternum, near the head of the clavicle.
d The tendinous end, inserted at e e into the outer part of the mastoid process, almost thro' its middle breadth from the top to the bottom.
f The *cleidomastoideus*.
g g Its origin, from the upper and fore part of the clavicle, near its head that is joined to the sternum.
h Thence it joins itself with the sternomastoideus, behind which the rest is seated.

Add here Fig. 26.

The *systematic connexion* appears in Tab. II. η θ ι κ λ ν in the neck. Then in Tab. I. Φ μ in the neck, where the rest is covered by the latissimus colli Ω , and its extremity is hid behind the outer ear.

FIGURE XXVI.

The sternocleidomastoideus, posteriorly.

- a b The inner and fore part of the sternomastoideus. b the tendinous beginning.
c The inner and fore part of the cleidomastoideus.
d The outer and back part of the sternomastoideus and cleidomastoideus conjoined together.
e The tendinous end, inserted in a crooked course at f g into the outer part of the mastoid process, from the top to the bottom, almost thro' the middle of its breadth; being continued backward to part of the temporal bone, and of the occipital bone g h, that are adjacent to the said mastoid process.

Add here Fig. 25.

The *systematic connexion* appears in Tab. V. u &c. in the neck. Laterally in Tab. IX. ξ in the neck, where it is partly covered by the latissimus colli μ .

FIGURE XXVII.

The splenius capitis.

- a The tendinous beginning of the first head, arising from the spinal process of the eleventh vertebra of the back.
b The tendinous beginning of the second head, arising from the spinal process of the twelfth vertebra of the back.
c The tendinous beginning of the third head, arising from the spinal process of the first vertebra of the neck.
d d The part, which proceeds from the ligament of the neck; of which the beginning e, is tendinous.
f The tendinous end, inserted at g g into the posterior lateral, and outer part of the mastoid process, thro' its whole length; and thence it is continued backward to an adjacent part of the temporal and occipital bone h h, almost to the part that is in the middle betwixt the root of the mastoid process, and middle of the occiput.

The *systematic connexion* appears in Tab. VI. P in the neck; where it is covered below by the serratus posticus superior æ b. Then in Tab. V. z in the neck, naked in that part; but the rest is covered by the cucullaris B, and in the end by the sternocleidomastoideus u. Then laterally in Tab. IX. v in the neck, naked in that part; but in the rest covered by the cucullaris ω , and the sternocleidomastoideus ξ .



I. *Rectus capitis posterior minor.*



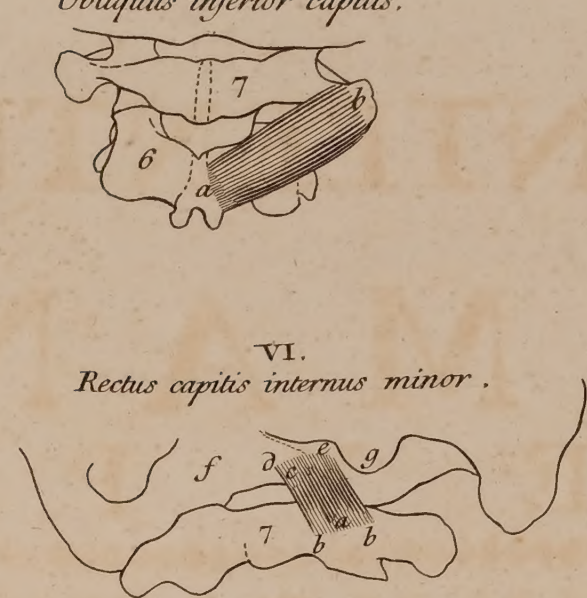
II. *Rectus capitis posterior major.*



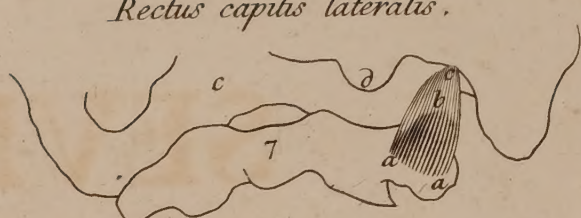
III. *Obliquus capitis superior.*



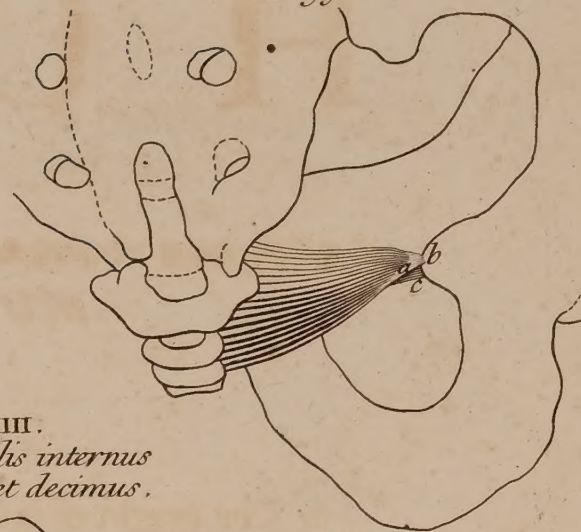
IV. *Obliquus inferior capitis.*



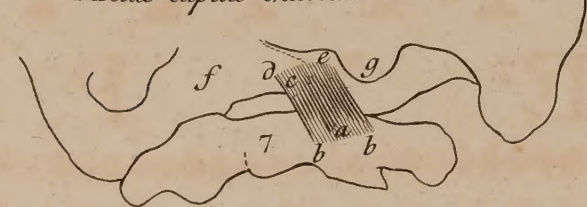
V. *Rectus capitis lateralis.*



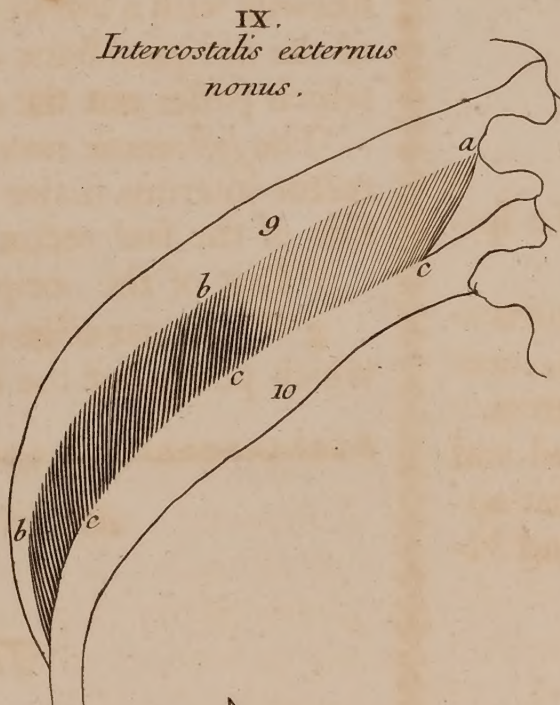
VII. *Coccygeus.*



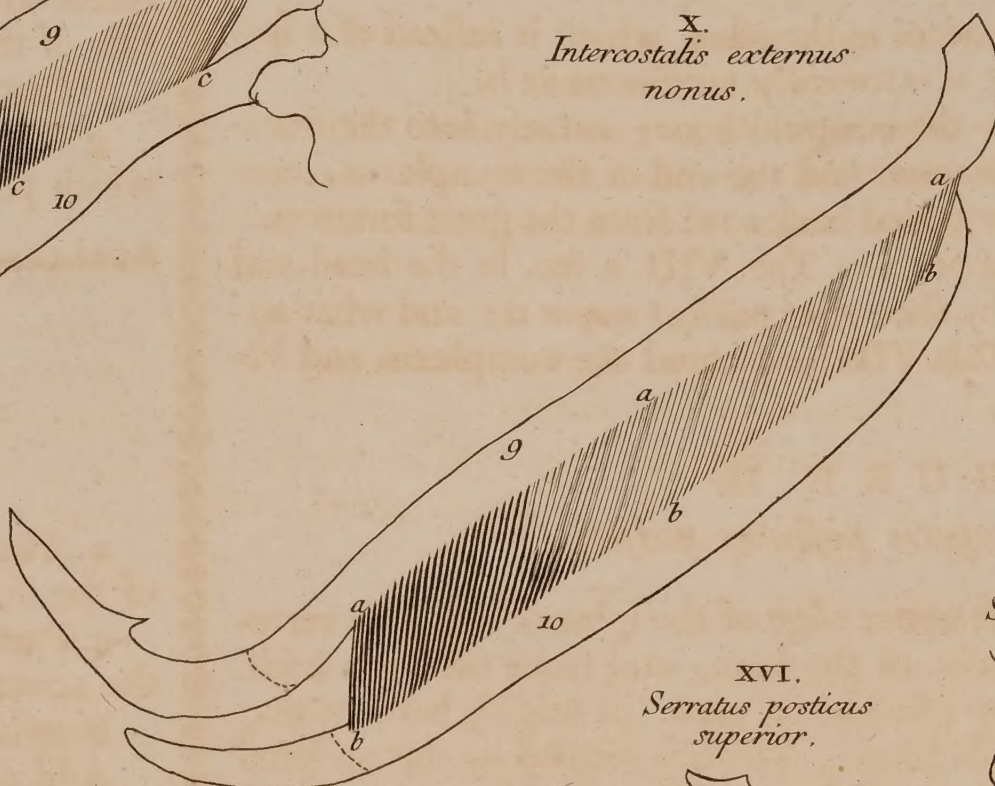
VI. *Rectus capitis internus minor.*



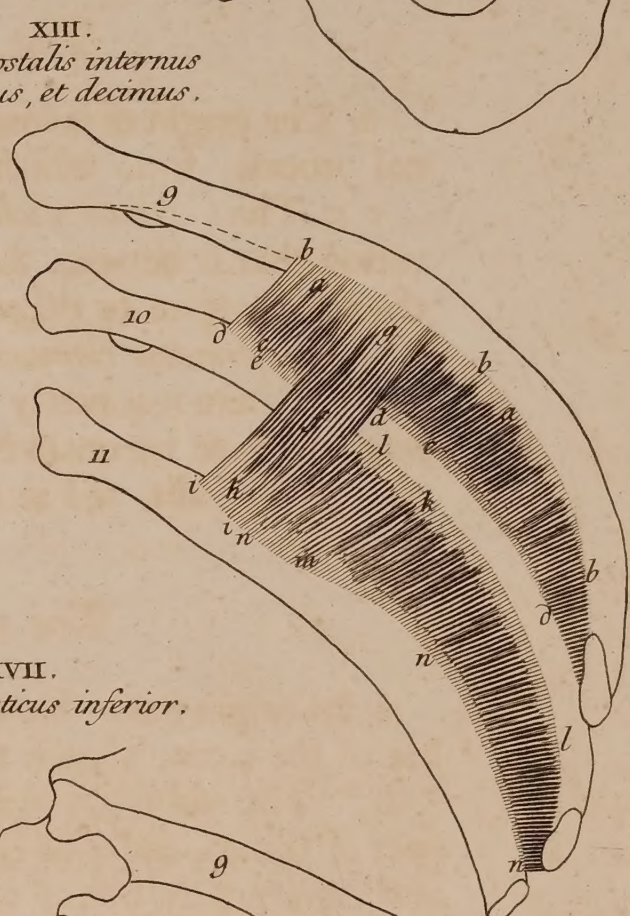
IX. *Intercostalis externus nonus.*



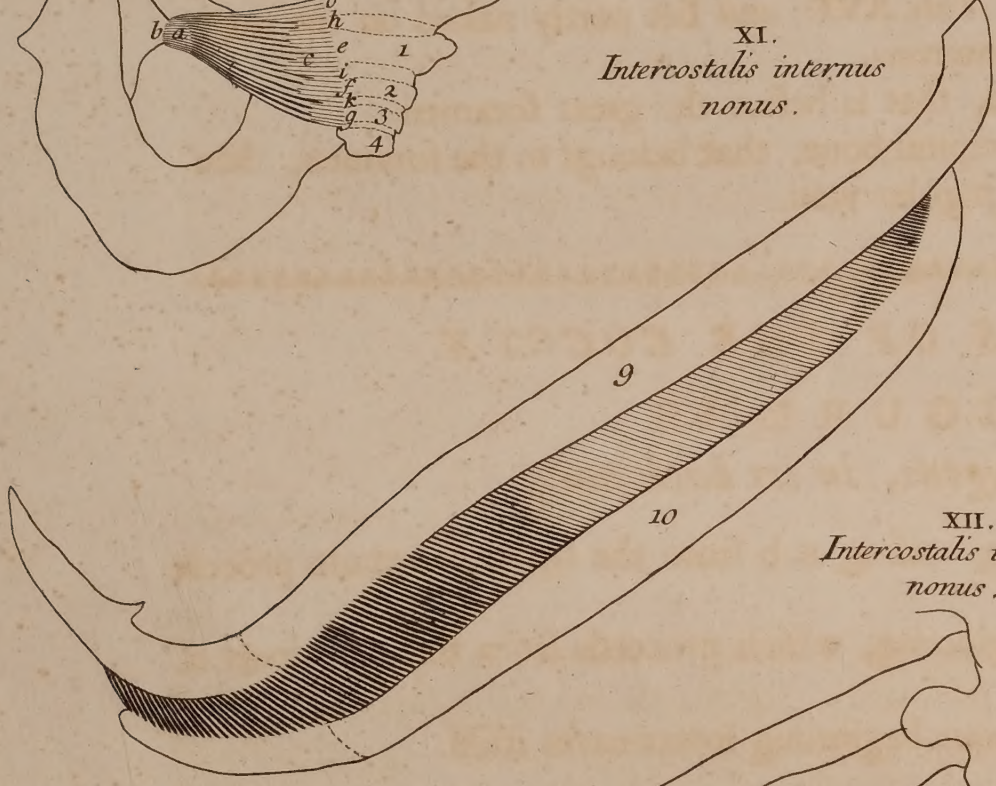
X. *Intercostalis externus nonus.*



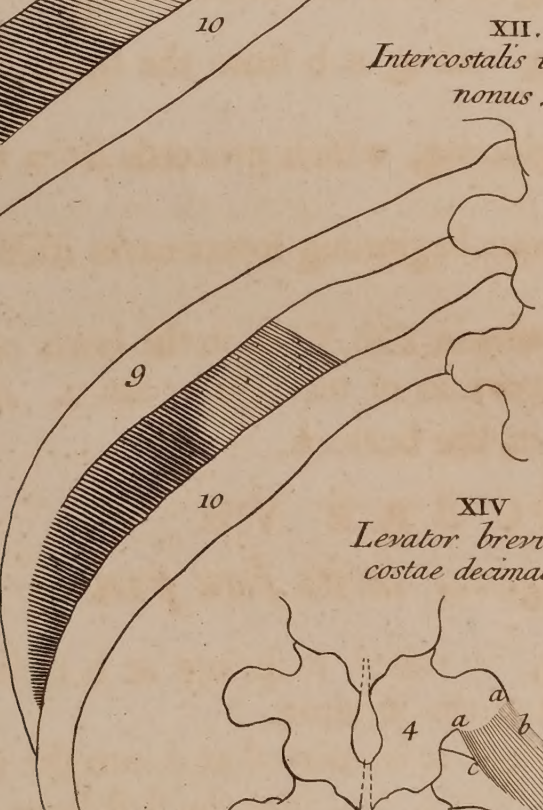
XIII. *Intercostalis internus nonus, et decimus.*



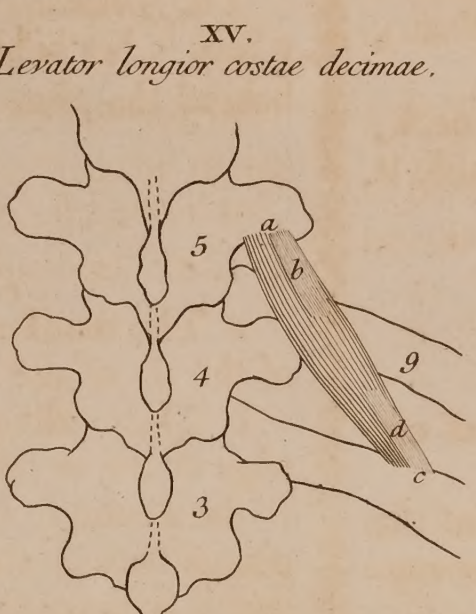
XI. *Intercostalis internus nonus.*



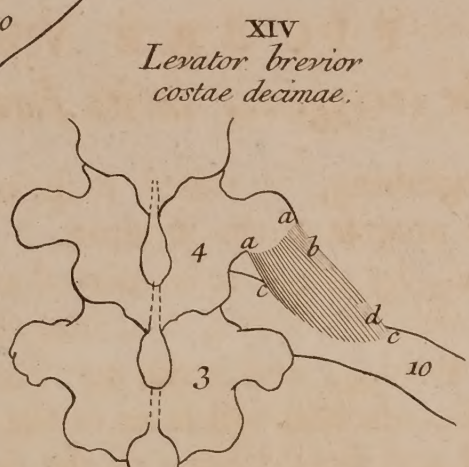
XII. *Intercostalis internus nonus.*



XV. *Levator longior costae decimae.*



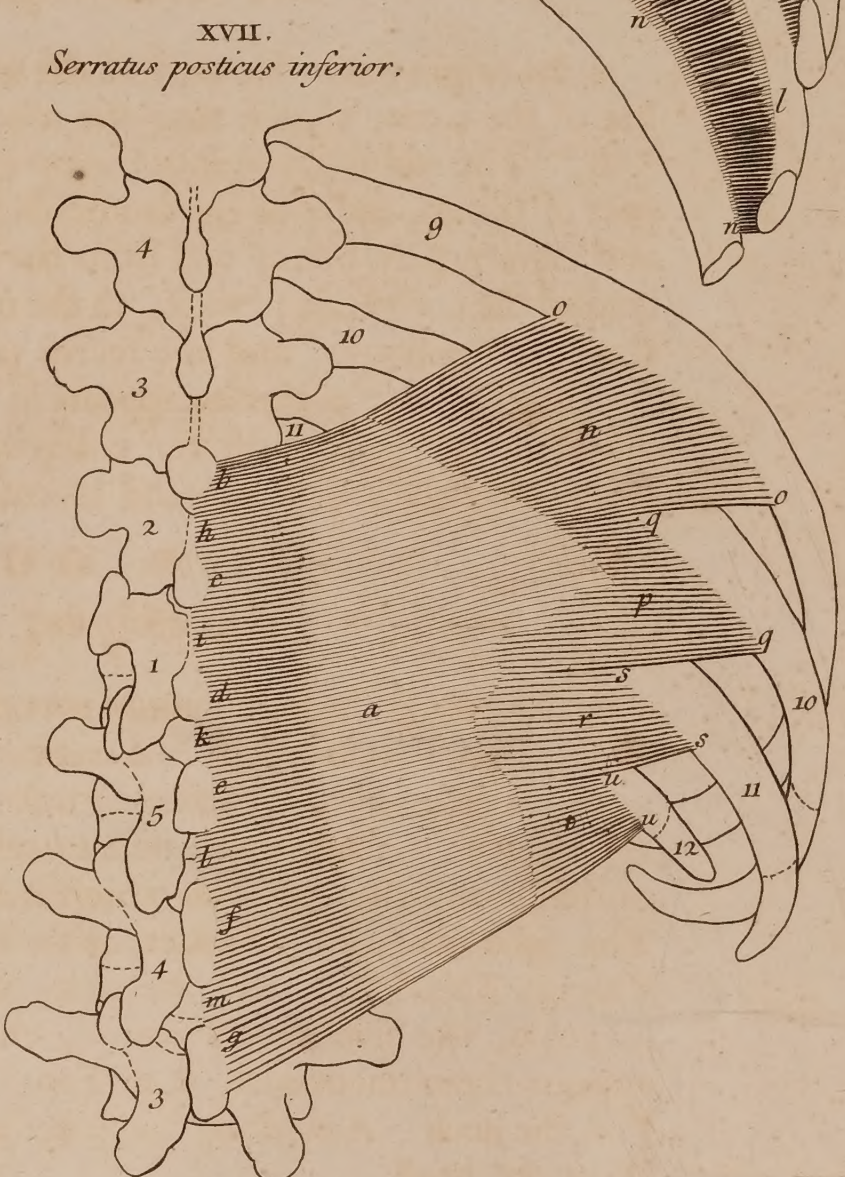
XIV. *Levator brevis costae decimae.*



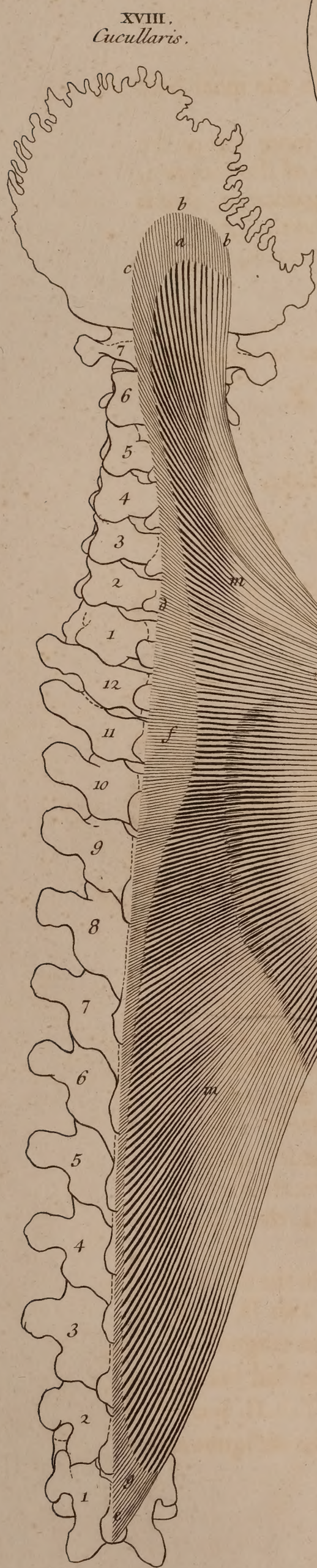
XVI. *Serratus posterior superior.*



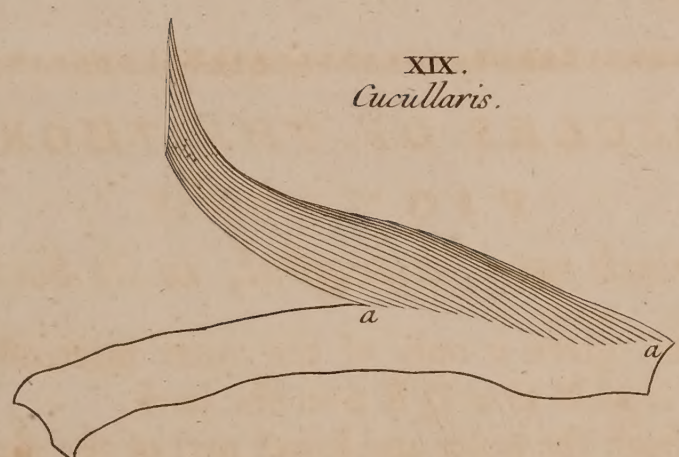
XVII. *Serratus posterior inferior.*



XVIII. *Cucullaris.*



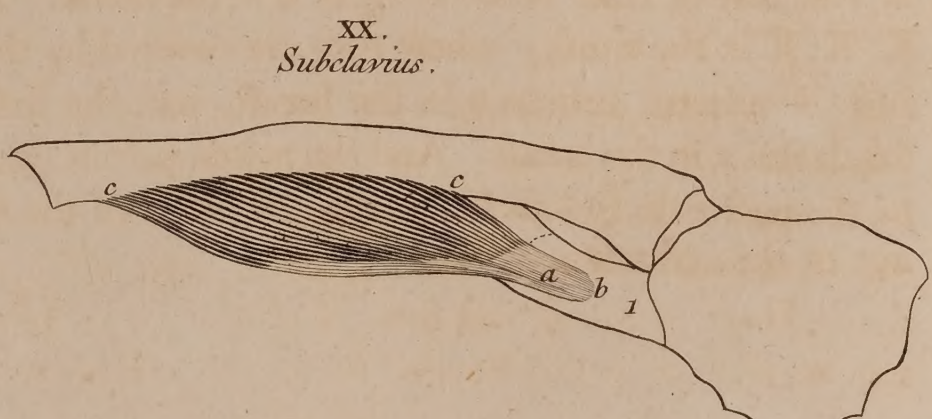
XIX. *Cucullaris.*



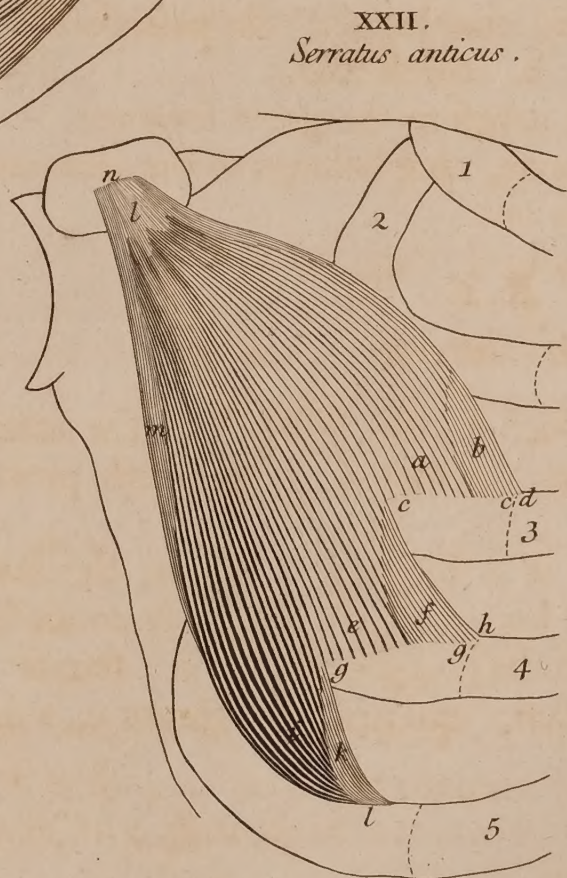
XXI. *Serratus magnus.*



XX. *Subclavius.*



XXII. *Serratus anticus.*



XXIII. *Rhomboideus minor.*



XXIV. *Rhomboideus major.*



THE SEVENTEENTH ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

MUSCLES OF THE HEAD.

FIGURE I.

The rectus capitis posticus minor.

a The origin of it from the eminence in the atlas, which is instead of a spinal process: from which origin it is outwardly tendinous at b.

c c The extremity inserted into the occipital bone; namely into the excavation that is betwixt the great foramen and the end of the complexus, near the middle spine or ridge that is extended backward from the great foramen.

The systematic connexion of it appears in Tab. VIII. a &c. in the head and neck; where it is partly covered by the *rectus posticus major* d: and what appears there to be uncovered, in Tab. VII. lies behind the complexus and biventer cervicalis, u l in the neck.

FIGURE II.

The rectus capitis posticus major.

a Its origin from that part of the upper edge of the spine of the sixth vertebra of the neck, that is near the root of the horn, and from the horn itself.

b b The end inserted into the occipital bone, near the middle betwixt that part of the appendix of the lamdoide future, which is formed by the occipital and mamillary bone; and from the lateral part of the great foramen, that is behind the coronoide process; in the middle betwixt the end of the complexus, the upper obliquus, and the *rectus posticus minor*.

The systematic connexion appears in Tab. VIII. d &c. in the head and neck; where its end goes under the obliquus superior g. But in the VIIth table it lies behind the complexus and biventer cervicalis, u l in the neck.

FIGURE III.

The obliquus capitis superior.

a The origin from the upper part of the end of the transverse process of the atlas: from which origin it is outwardly tendinous at b.

c c The extremity inserted into the occipital bone, betwixt that part of the appendix of the lamdoide future, which is formed by the os occipitis and mamillare; and the part into which is inserted the *rectus posticus major*.

The systematic connexion appears in Tab. VIII. g &c. in the head and neck. Then in Tab. VII. w x in the neck; where the rest of it is covered by the complexus u, the biventer cervicalis l, and the trachelomastoideus z B: and what appears there uncovered, is in Tab. VI. concealed behind the splenius capitis, P in the neck. Anteriorly it appears in Tab. IV. s in the head, and in Tab. III. Æ in the head.

FIGURE IV.

The obliquus capitis inferior.

a Its origin from the upper part of the side of the spine of the epistrophæus, thro' the whole length of the spine, and a large part of its horn, by a tendinous beginning.

b The extremity, inserted into the posterior amplitude of the end of the transverse process of the atlas.

The systematic connexion appears in Tab. VIII. k &c. in the neck. Then in Tab. VII. y in the neck, where the rest of it is covered by the complexus u, and the trachelomastoideus z B: and what there appears uncovered, is in Tab. VI. concealed behind the splenius capitis P in the neck.

FIGURE V.

The rectus capitis lateralis.

a a Its origin from the anterior and upper part of the transverse process of the atlas.

b The extremity, which is outwardly tendinous, and inserted at c into the unequal surface of the occipital bone, that is near the mastoide process, and by the back part of that edge of the occipital bone which forms the posterior margin of the foramen, thro' which the internal jugular vein passes out.

The systematic connexion cou'd not be represented.

c Part of the occipital bone, that is before the great foramen.

d The lunar edge of the occipital bone, that belongs to the foramen, thro' which the internal jugular vein passes out.

FIGURE VI.

The rectus capitis internus minor.

a The tendinous beginning, by which it arises at b b from the anterior and upper part of the body of the atlas, near the root of the transverse process, and from the root itself.

c The tendinous end, by which it is inserted at d into the lower and back part of the edge of the occipital bone, which is slightly connected with the os petrosum; and particularly into the protuberance which stands out from the said edge before the coronoide process; and near the same at e, mixes itself

likewise with a sort of cartilaginous substance, that fills the space at the bottom of the occipital bone and os petrosum, that is placed before the fissure, thro' which passes out the eighth nerve of the brain.

The systematic connexion cou'd not be represented. It lies partly behind the *rectus internus major* Fig. 19. Tab. XVI: and lies partly naked on the outer side of the said *rectus major internus*.

f Part of the occipital bone, that is before the great foramen.

g The lunar edge of the occipital bone, that belongs to the foramen, thro' which passes out the internal jugular vein.

MUSCLES OF THE COCCYX.

FIGURE VII.

The coccygeus, in its back part.

a The tendinous beginning, arising at b from the tip of the acute process of the ischium

c Part of the tendinous beginning, which proceeds from the inner part of the acute process.

Betwixt a and c the tendinous beginning interweaves itself.

Add here Fig. 8.

The systematic connexion appears in Tab. VI. d in the lower part of the trunk, where it lies behind a certain portion of the levator ani e. In Tab. V. it lies behind the gluteus magnus γ in the buttock.

FIGURE VIII.

The coccygeus, in its fore part.

a The tendinous beginning, by which it springs at b from the inner part of the tip of the acute process of the ischium.

c The tendinous end, by which it is inserted at d into the inner part of the edge of the os sacrum near its coccyx, and into the first bone of the coccyx e, to the second f, to the third g; and is also continued to the ligament h, that is placed betwixt the os sacrum and first bone of the coccyx; and the ligament i, that is betwixt the first and second bone of the coccyx, and that k, which is betwixt the second and third.

Add here Fig. 7.

MUSCLES OF THE THORAX.

FIGURE IX.

The ninth outer intercostal, in its back part.

The example here given is only of the outer intercostals: to which add Tab. VIII. H I K L M N O P Q R S in the back.

a b b Its origin from the outer and lower part of the ninth rib, particularly from the part a, where the rib begins to project beyond the transverse process to which it is connected.

c c c The insertion, into the outer and upper part of the tenth rib.

Add here Fig. 10.

The systematic connexion appears in Tab. VIII. H I K L M N O P Q R S in the back; where they are in part covered by the short elevators of the ribs λ. μ. ν. ξ. ο. π. ε. σ. τ. υ: and the ninth, tenth, and eleventh of them are likewise in part covered by the longer elevators of the ribs A F G. Then in Tab. VII. N. O. P. Q. R. R. S. S. T. U. V. W in the trunk; where they are covered by the sacrolumbalis v--II, with the cervicalis descendens D; and (except the first, with the second N, the third O, and the fourth P) they are covered by the shorter elevators K. L. M: but the first of them lies hid behind the shorter elevator I, and the posterior scalenus F: and in part also are hid behind the longissimus dorsi Φ Σ Ψ, the fifth, sixth, seventh, and eighth. Then in Tab. VI. φ. χ. ψ. ω. Γ. Δ Δ. Θ. Δ in the left side of the back; where what appears naked of them in Tab. VII. is for the most part covered by the serratus posticus superior æ b, by the serratus magnus II--B, and by the serratus posticus inferior C--L: the right side is also agreeable to this, except that the 4th part φ, the fifth χ, and the sixth ψ, which are naked in the left side, are in this covered by the rhomboides major q; and part of the seventh ω is also covered. And what appears naked in the right side of Tab. VI. the same is covered by the latissimus dorsi Tab. V. P in the back.

Anteriorly it appears in Tab. IV. ε. ε. τ. υ. φ. χ. ψ. ω. A in the trunk: and in Tab. III. G. L. M. N. O. P. Q. R. S in the trunk. Then in Tab. II. K. K. K. K. K. K in the trunk; where they are covered by the serratus magnus Ψ--G, and the serratus anticus υ in the breast, and the first also lies hid behind the subclavius σ in the breast. And the naked part of the first in Tab. II. is covered by the pectoralis ξ Tab. I. in the trunk: and of the rest by the obliquus externus of the abdomen d, &c.

SEVENTEENTH MUSCULAR TABLE.

Interiorly the first appears in Tab. IV. ς , the second ς , the third τ within the thorax, below the neck; where the second ς is covered by the second inner intercostal C.

FIGURE X.

The ninth outer intercostal, laterally.

a a a Its origin from the outer and lower part of the ninth rib.
b b b Its insertion into the outer and upper part of the tenth rib.
Add here Fig. 9.

FIGURE XI.

The ninth inner intercostal, laterally.

We here give only one example of inner intercostals, to which
Add Fig. 12. and 13.

FIGURE XII.

The ninth inner intercostal, anteriorly.

We here give only one instance among the inner intercostals: to which add Tab. VIII. T. U. V. W. X. Y. Z. a. æ. b. c in the back.
Add here Fig. 11. and 13.

The systematic connexion appears in Tab. VIII. T. U. V. W. X. Y. Z. a. æ. b. c in the back. But in the right side they lie concealed behind the outer intercostals H. I. K. L. M. N. O. P. Q. R. S in the back, except part of the eleventh internal intercostal marked c, which also appears in Tab. VII. X in the trunk, and in Tab. VI. Z in the back, partly covered by the obliquus internus of the abdomen R S; and what part there remains uncovered, is in Tab. V. covered by the obliquus externus of the abdomen, W in the trunk, and latissimus dorsi P in the back.

Anteriorly the systematic connexion appears in Tab. IV. B. C. D. E. F. G. H. I. K in the left side of the trunk. Then in the right side B C D; where they are covered by the external intercostals ς . ς . τ : but more fully in Tab. III. T. Y. Z. a. b. c. d. e. f. g. h. i. k in the trunk, covered by the external ones G. L. M. N. O. P. Q. R. S. Then in Tab. II. L. L. &c. in the trunk; where they are likewise covered by the external ones K K &c. also the second, third, and fourth are covered by the serratus anticus u in the breast; also the anterior separate portions of the fifth, sixth, and seventh, in part lie under the rectus of the abdomen Z &c. And what parts appear naked in that last cited table, in Tab. I. lie behind the pectoralis ξ in the trunk, and obliquus externus of the abdomen d &c.

FIGURE XIII.

The ninth and tenth internal intercostals, internally.

a a b b b c c d d d e The ninth internal intercostal.
a a The tendinous beginning, by which it arises at b b b from the lower edge of the inner side of the ninth rib, and from the upper edge of the groove in which are lodged the intercostal vessels.
c c The tendinous end, by which it inserts itself at d d d into the inner part of the upper edge of the tenth rib, and in the part e obliquely across the inner side or breadth of the rib.
f The portion of the ninth internal intercostal muscle, that descends lower than the rest, and passing over the tenth rib, is inserted into the eleventh.
g Its beginning, that is for a good way tendinous.
h Its tendinous end, inserted at i i with the tenth intercostal, into the inner part of the upper edge of the eleventh rib.
k l l m n n n The tenth internal intercostal.
k The tendinous beginning, by which it arises at l l from the lower part of the inner side of the tenth rib; as the ninth does from the ninth rib.
m The tendinous end, by which it inserts itself at n n n into the inner part of the upper edge of the eleventh rib.
Add here Fig. 11. and 12.

The systematic connexion of the second, appears in Tab. IV. C C below the neck within the thorax. That of the eleventh appears in Tab. IV. L L L in the trunk; where the diaphragm U Θ Π Π lies thereon, and upon the ninth at U Σ Σ Ω . And in Tab. VIII. æ in the right side of the back.

FIGURE XIV.

The elevator brevis of the tenth rib.

This is proposed as an example for the rest. See Tab. VIII. κ . λ . μ . ν . ξ .
o. π . ς . σ . τ . υ in the back.
a a The origin from the transverse process of the fourth vertebra of the back, from the lower part almost of its whole length.
b The tendinous part of its beginning.
c c The extremity, inserted into the upper edge of the tenth rib; into the acute eminence which arises out from thence, where it begins to depart from the bodies of the vertebrae; and beyond that it goes on a little farther than where the rib is jointed with the transverse process, or near the extremity where there is an unequal excavation or groove extended thro it: also into the outer part of the upper margin a little beyond the said process.
d The tendinous part of the extremity.

The systematic connexion appears in Tab. VIII. κ . λ . μ . ν . ξ . o. π . ς . σ . τ . υ in the back; where, except the three first, they are covered by the intertransversarii of the back f. g. h. i. k. l. m. n. o: the ninth, tenth, and eleventh, are covered by the longer elevators A. F. G: the three first are covered by the spinalis colli 6. 7. 8; and again the fourth, fifth, and sixth in the same manner; but the seventh, eighth, ninth, and tenth are covered by the semispinalis dorsi t. s. r. q; and all of them by the multifidus. But in Tab. VII. they are likewise covered by the longissimus dorsi μ Σ Ψ , and sacrolumbalis ν Π , with the cervicalis descendens, D in the trunk; and some of the uppermost are also

hid by the transversalis colli C C, and by the complexus cervicalis u; over the first and second is spread the scalenus posticus F: those partly naked are the second I, the third K, the fourth L, the fifth M; and upon those parts, in Tab. VI. is seated the serratus posticus superior æ b in the left side of the back; where only a part of the fifth ϕ lies naked, which in the right side is covered by the rhomboideus major q.

Anteriorly the systematic connexion of the first elevator brevis appears in Tab. IV. σ in the neck; is in part covered by the middle scalenus, the tail δ belonging to the transverse process of the first vertebra of the neck. And in Tab. III. Z in the neck; it is likewise covered by the tail c of the said middle scalenus.

FIGURE XV.

The elevator longus of the tenth rib.

This is given as an example of the rest. Add here Tab. VIII. F. G in the back.
a The origin from the lower edge of the back part of the transverse process of the fifth dorsal vertebra.

b The tendinous part of its beginning.
c The end, inserted into the back part of the upper edge of the tenth rib, near the outer side of the elevator brevis, where the rib more inclines itself downwards.

d The tendinous part of the extremity.
The systematic connexion appears in Tab. VIII. A. F. G in the back; where they lie partly under the intertransversarii of the back i. h. g. Then again they are covered over by the longissimus dorsi with the sacrolumbalis Tab. VII. μ &c. in the trunk.

FIGURE XVI.

The serratus posticus superior.

a The tendinous part, by which it begins and arises at b b from the ligament of the neck, from whence it is cut off about the second and third spinal process of the neck from the back; from the spine of the first cervical vertebra c, from the twelfth of the back d, and from the eleventh e; and in the intervals betwixt those spines f. g they cohere with the next muscles.

h i k l The four extremities, into which this muscle divides itself, and which it inserts into the second, third, fourth, and fifth ribs, where they first begin to bend themselves forwards, and are inserted along the upper edge and outer side of the ribs.

m The tendinous end of the first, inserted into the second rib.
n The tendinous end of the second, inserted into the third rib.
o That of the third, inserted into the fourth rib.
p That of the fourth, inserted into the fifth rib.

The systematic connexion appears in Tab. VI. æ &c. in the left side of the neck and back; where it covers part of the elevator scapulæ Z, and passing with its extremities under the scapula, it lies under the serratus magnus. Then in the right side æ b; where also it in part covers the elevator scapulæ Z: but the rest is covered by the rhomboideus minor m, and the rhomboideus major p p q; and what part appears there naked, the same is in Tab. V. seated behind the cucullaris B in the neck and back.

FIGURE XVII.

The serratus posticus inferior.

a The tendinous part, which arises with the latissimus dorsi from the spine of the 3d dorsal vertebra b, from the spine of the 2d c, from the spine of the 1st d, from the 5th or uppermost of the loins e, from the 4th f, from the 3d g: and in the intervals betwixt the spines h i k l m, it coheres with the next muscles.

n The first extremity, which is broader than the rest, and inserted at o o into the ninth rib, into the outer part of its lower edge, almost where it bends itself in the side from the back forwards.

p The second end, inserted into the tenth rib q q. Much narrower than the last preceding head above it.

r The third extremity, inserted into the eleventh rib s s. Still narrower than that next above it.

t The fourth end or extremity, inserted into the twelfth rib u u; being still narrower than that next above it.

Add here Fig. 3. Tab. XIV.

The systematic connexion appears in Tab. VI. C &c. in the lower part of the trunk; where its origin is covered over by the tendon U, by which the latissimus dorsi begins. In Tab. V. it lies wholly concealed behind the latissimus dorsi P &c. in the back.

MUSCLES OF THE SHOULDER, COMPOSED OF THE SCAPULA AND CLAVICLE.

FIGURE XVIII.

The cucullaris.

a b b c d e f g The tendinous beginning.
a The broader part of its beginning, arising at b b c from the middle and thick part of the occipital bone, and from its lateral edge.
From c to e it coheres with its fellow, and with that
from c to d goes off from the cervical ligament, from whence it is here cut:
from d to e it arises from the spines of the two lower vertebrae of the neck, and all those of the back, investing the back part of those spines. In the intervals of the spines it coheres with the left cucullaris.

f The tendinous part of its beginning, which is broader towards the bottom of the neck, and upper part of the back.

g The broad tendinous portion of the lower angle.

h The tendinous part of its extremity, which is inserted into the spine of the scapula at i, near its basis.

After-

SEVENTEENTH MUSCULAR TABLE.

Afterwards by the continued tendinous end k k, it is inserted at i l into the outer part of the upper edge of the spine of the scapula, and of its upper process.

m m The flesh of the muscle, whose upper fibres descend obliquely forwards to the clavicle; the lower ascend to the spine of the scapula; the fibres even with the neck and back are transverse, but incline more or less to descend or ascend, as they are higher or lower.

Add here Fig. 19.

The *systematic connexion* appears in Tab. V. B &c. in the head, neck, and back. Laterally it appears in Tab. IX. ω &c. in the head, neck, and back.

FIGURE XIX.

The anterior part of the cucullaris.

a a Its insertion into the upper and back part of the clavicle for that half its length, which is next the processus acromion scapulæ.

Add here Fig. 18.

The *systematic connexion* of this part, appears in Tab. I. ♣ in the neck, where it is in part covered by the latissimus colli Ω &c.

MUSCLES OF THE CLAVICLE.

FIGURE XX.

The subclavius.

a The tendon by which it begins, running thro' the lower part of its flesh, and arising at b from the outer part of the cartilaginous end of the 1st rib.

c c The end, inserted into the lower part of the clavicle, all the way from a part not far distant from its first, as far as that head which lies upon the coracoid process.

The *systematic connexion* appears in Tab. II. σ σ σ σ in the breast, where part lies hid behind the coracoid process. In Tab. I. it lies behind the pectoralis ξ in the trunk, and the deltoides M in the shoulder: and betwixt them it lies hid behind the latissimus colli θ α in the trunk. Posteriorly its connexion appears in Tab. VI. θ near the shoulder.

MUSCLES OF THE SCAPULA.

FIGURE XXI.

The serratus magnus.

a The first head, which arises at b from the outer and lower part of the 1st rib, and from its origin c adheres to the first external intercostal.

d The second head, which arises at e from the whole height or breadth of the 2d rib, and from its origin f adheres to the 1st outer intercostal muscle.

g The first and second head conjoined in one, the thick portion arising from which is inserted tendinous at h, principally into the inner side of the very short margin of the scapula, betwixt the basis and upper rim.

i The third head, arising at k k k from the outer part of the lower edge of the second rib. It grows broad in the shape of a triangle, and is inserted into the greater part of the basis of the scapula, on its inner side.

m The fourth head, which arises at n n from the outer part of the third rib, and from its beginning adheres at o o to the third outer intercostal, and is inserted by its tendinous end p into the basis of the scapula, below the 3d head.

q The fifth head, which arises at r r from the outer part of the fourth rib, and is inserted by its tendinous end s into the lower angle of the scapula, just beneath the fourth head.

t The sixth head, adhering at u u from its beginning to the fourth outer intercostal, and arising at v from the outer part of the fifth rib. It is inserted at w into the lower angle of the scapula, just beneath the fifth head, by a tendinous extremity.

x The seventh head, which from its origin y y adheres to the fifth outer intercostal, and arises at z from the outer part of the sixth rib. 'Tis inserted at A in the bottom of the lower angle of the scapula, by a tendinous extremity, just beneath the sixth head.

B The eighth head, adhering from its beginning C C to the sixth outer intercostal, and arising at D from the outer part of the seventh rib.

E The ninth head, adhering from its beginning F F to the seventh outer intercostal, and arising at G from the outer part of the eighth rib.

H The tenth head, adhering from its origin I I to the eighth outer intercostal, and arising at K from the outer part of the ninth rib.

L The common tail or insertion of the eighth, ninth, and tenth heads, ending tendinous in the lower angle of the scapula. With this insertion the seventh head is likewise conjoined in some bodies.

M N N O The place from whence the scapula is removed, that the subjacent part of the serratus may appear. A very small edge of the scapula is left at M, betwixt the basis and upper edge: and at N N is left part of the basis; and of the lower angle at O.

The *systematic connexion* appears in Tab. IX. K L M N O P Q in the trunk; where it is covered by the serratus anticus G, the pectoralis H, the latissimus dorsi Ω, and by the heads U V W of the obliquus externus of the abdomen.

Anteriorly its connexion appears in Tab. II. ♣ Ω A B C D E F G &c. in the trunk; where it is also covered by the serratus anticus υ &c. and lies hid behind the subclavius σ &c. Then in Tab. I. χ ψ ω a b in the trunk; where it is covered by the pectoralis ξ in the breast; and by the heads of the obliquus externus of the abdomen e. f. g in the trunk, and by the latissimus dorsi τ.

Posteriorly its connexion appears in Tab. VI. Π Σ Φ ♣ Ω A B in the side of the thorax, and ζ at the shoulder; where the rest lies under the scapula and the subscapularis muscle, that adheres to the inner side of the said bone, and under the adjacent muscles, as the teres major ψ in the scapula, the rhomboideus major x in the back, the elevator scapulæ Z in the neck, and the coracohyoideus η at the shoulder. And what appears naked in that table, is in Tab. V. placed under the latissimus dorsi P in the back, and the cucullaris B in the neck and back.

FIGURE XXII.

The serratus anticus.

a b The first head, by which it arises at c c from the outer part of the upper edge of the end of the bony part of the third rib, and at d from its adjacent cartilage. b the thin tendinous part.

e f The second head, by which it arises at g g from the outer part of the fourth rib, in an oblique course, at its upper part, near its cartilaginous end, and from the adjacent cartilaginous part itself at h, whence it inclines downward and backward. f the thin tendinous part.

i k The 3d head, by which it arises at l from the outer part of the upper edge of the 5th rib, not far from its cartilaginous end. k its thin tendinous part.

l m The tendinous end, which begins to appear tendinous before, at m in the margin of the muscle, that lies towards the axilla. It is inserted at n into the upper and inner part of the coracoid process of the scapula, not far from the extreme tip of that process.

The *systematic connexion* appears in Tab. II. υ &c. in the breast. In Tab. I. it lies under the pectoralis ξ in the trunk, and the deltoides M in the shoulder. Laterally it appears in Tab. IX. G in the trunk; where from the raised position of the arm, part of it appears uncovered by the pectoralis H.

FIGURE XXIII.

The rhomboideus minor.

a The tendinous beginning, by which it arises from the ligament of the neck, near the spines of the three lower cervical vertebræ; where it is cut off from the ligament b b.

c c The end inserted into the scapula, at that part of its basis which is near the rising spine, where the basis forms an angle with the upper margin.

The *systematic connexion* appears in Tab. VI. m in the back. In Tab. V. it lies under the cucullaris B in the neck and back.

FIGURE XXIV.

The rhomboideus major.

a The tendinous origin, by which it springs at b from the side of the end of the tip of the spinal process of the first or lowest vertebra of the neck, the uppermost or twelfth of the back c, of the 11th d, of the 10th e, and of the 9th f. And in the spaces betwixt those spines it coheres with the adjacent or nearest muscles, from whence it is here cut off at g. g. g. g.

h i The part where the muscle bends itself in the direction of the basis of the scapula, but without inserting itself.

i From thence its extremity is inserted into the basis of the scapula, as far as its lower angle k.

The *systematic connexion* appears in Tab. VI. p &c. in the back; where it lies partly under the rhomboideus minor m. In Tab. V. it lies under the cucullaris B in the back, and the latissimus dorsi P, a small part being naked at L.





THE EIGHTEENTH ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

MUSCLES OF THE HUMERUS.

FIGURE I.

The latissimus dorsi, laterally.

- a a The broad tendon, by which it begins.
b The fleshy part.
c d The place where the broad tendon is cut off, where it coheres with the origin of the gluteus magnus.
d e The origin of the broad tendon, from the outer part of the margin of the middle of the spine of the ilium.
f. g. h The heads, which arise in the side of the body from the outer part of the ribs: f that from the eleventh rib, g that from the tenth, h from the ninth. That from the twelfth rib, lies under the part that springs from the os ilium, and therefore does not appear in the figure.
i The place where it bends itself to the teres major.
k l The inner portion: of which k denotes the fleshy part; l the tendon in which it ends.
Add here Fig. 2. and 3.
The *systematic connexion* appears in Tab. IX. Ω &c. in the trunk; where at its origin 'tis covered by the cucullaris ω , and with its end passes under the arm.

FIGURE II.

The latissimus dorsi, posteriorly.

- a a The broad tendon, by which it begins.
b b Its origin from the ends of the spines of the six lower vertebræ of the back, from the spines of the lumbal vertebræ, and from those of the os sacrum.
c d Its origin from the oblique processes, that are at the sides of the opening in the os sacrum, where the canal of the spina dorsi terminates.
d e The part that coheres with the beginning of the gluteus magnus, from whence it is cut off.
e f Its origin from the outer edge of the middle portion of the spine of the ilium.
g The fleshy portion.
h The place where it bends itself to the teres major.
i k The inner portion: of which i denotes the fleshy part; k the tendon, in which it ends.
Add here Fig. 1. and 3.
The *systematic connexion* appears in Tab. V. P &c. in the back, where it is covered at its origin by the cucullaris B F, while its end passes under the teres major O.

FIGURE III.

The latissimus dorsi, anteriorly.

- a b The heads, which arise from the ribs. a that from the tenth rib. b that from the ninth.
c The anterior fleshy portion.
d The inner fleshy portion, coming from the back: here cut off at e e.
f The tendon, in which it ends, inserted at g g a little below the less unequal protuberance in the upper head of the os humeri, into the fore part of the eminence h h, that terminates the sinus or channel backward, thro' which descends the tendon of the biceps muscle of the arm; and then running lower than the said sinus, where it meets the tendon of the pectoralis, it in part joins and continues itself thereto.
Add here Fig. 1. and 2.
The *systematic connexion* appears in Tab. I. $\tau\phi$ in the trunk; where in its upper part it lies behind the pectoralis ξ . In Tab. II. part of the end Φ in the humerus, is covered by the coracobrachialis and biceps of the arm u w y z: which in Tab. I. is covered by the pectoralis ξ in the trunk, and the deltoides M &c. in the humerus.

FIGURE IV.

The pectoralis, anteriorly.

- a a Its origin from almost all the fore side of that part of the clavicle, which is incurvated towards the thorax.
b b Its origin from the anterior part of the os pectoris, all the way from the root of that part which sustains the clavicle, as far as the insertion of the cartilage that sustains that sixth rib.
c Its origin from the outer part of the end of the cartilage of the 6th rib.
d e Its origin from the upper part of the outer side of the cartilage of the seventh rib, almost at its end, where the origination is for some way thin and tendinous: and of which the lower part e may be said to belong to the pectoralis, or to the aponeurosis of the obliquus externus of the abdomen.
f f The part where it coheres with the aponeurosis of the external obliquus of the abdomen, from whence it is cut off.
g The portion that joins this muscle from the aponeurosis of the external obliquus of the abdomen. h h the place where 'tis cut off from that aponeurosis.

The portion of this muscle that arises from the fore part of the whole cartilage, and often from the bony end itself of the fifth rib, lies here under the muscle; as also do the portions, which it receives from the fore parts of the cartilages, which the four upper ribs send to the os pectoris, and from the adjacent parts of the os pectoris itself.

i i The foot-steps or marks impressed on this muscle by the deltoides, under which it in part lies.

k The tendon, in which the upper part ends; inserted at l l into the oblong eminence of the os humeri, that is seated in its inner side, a little below the large unequal protuberance of the upper head of the humerus, lying along the side of the sinus, and terminating the same before, thro' which the biceps detaches one of its heads. But the tendon ends in that part of the ridge or eminence, that looks towards the sinus.

Add here Fig. 5.

The *systematic connexion* appears in Tab. I. ξ in the trunk; where it is in part covered by the latissimus colli $\alpha\alpha$, and by the deltoides M &c. in the shoulder.

Laterally its connexion appears in Tab. IX. H I in the trunk.

FIGURE V.

The end of the pectoralis, in its back part.

- a b Portions of its anterior extremity, of which a is tendinous throughout, b is a thin tendinous surface. The rest is covered by the posterior extremity.
c The lower portion, that coming from the anterior part, bends itself round the upper.
d d The posterior tendinous end, which in its upper part crosses the first end applied to it, and in the end connected with it.
e e f Its insertion into the os humeri. See Fig. 4. l l.
g g g g A part of the os humeri cut out, in such a manner as to shew the end of the muscle, as it is inserted.
Add here Fig. 4.

FIGURE VI.

The infraspinatus.

- a b Its origin from the back of the scapula, along its basis; and from the lower part of the spine b--c. The rest continues to arise from beneath the said spine, as far as the root of its process acromion, and below that also from the sinus, that is extended along the anterior and lower rim of the scapula.
d The tendon, that first begins to appear externally.
e f The fleshy portions, that join to that tendon. e the upper, that goes off from the spine. f the lower portion, that comes from the lower angle.
g The tendinous end, inserted at h into the upper and back part of the larger unequal protuberance, in the upper head of the os humeri.
The *systematic connexion* appears in Tab. VI. μ &c. in the scapula; where it in part lies under the teres minor τ , and by its extremity passes in some measure under the process acromion scapulæ. Then in Tab. V. I K in the back, where it is partly covered by the latissimus dorsi P, and the cucullaris B G, and likewise the deltoides ζ &c. in the shoulder.
Laterally its connexion appears in Tab. IX. Π in the trunk; where it is likewise covered in part by the latissimus dorsi Ω , and the cucullaris Ξ , and in part by the deltoides A &c. in the left arm.

FIGURE VII.

The coracobrachialis, in its fore part.

- a a The coracobrachialis muscle.
b Its common origin together with the shorter head of the bicipital muscle of the arm, from the coracoid process of the scapula.
c Part of the shorter head of the biceps brachialis, externally tendinous, and conjoined with the coracobrachialis: d d the place where the said short head is cut off.
e The tendinous excursion or aponeurosis that runs along the flesh of the coracobrachialis, where the short head of the biceps no longer coheres with it.
f The division or slit in this muscle, thro' which a nerve passes.
g Its insertion, into the back part of the inner side of the os humeri, beneath the middle longitudinal portion of that bone.
Add here Fig. 8.

The *systematic connexion* appears in Tab. III. $\zeta\eta\beta$ &c. in the humerus, where at its end it is in some measure covered by the brachialis internus μ . Then in Tab. II. u in the arm; where it is in a great measure covered by the biceps brachialis w x. Then in Tab. I. R S in the arm, where it is likewise covered by the biceps brachialis X, the pectoralis ξ in the trunk, and the deltoides M in the shoulder.

FIGURE VIII.

The coracobrachialis, in its back part.

- a The tendon, which here springs from two originations b c.
[H b]

E I G H T E E N T H M U S C U L A R T A B L E.

d The division or slit in its fleshy part, thro' which passes a nerve.

Add here Fig. 7.

The *systematic connexion* appears in Tab. VII. v in the arm; where part lies under the teres major μ , and the subscapularis λ , in the scapula: part behind the brachialis externus ξ v in the arm: and part is hid by the os humeri. And what there appears naked, is in Tab. VI. covered by the extensor longus C, and the extensor brevis ω , in the humerus: a small portion appears naked betwixt them and the teres major ψ in the scapula; and which in Tab. V. is covered by the deltoides ζ &c. in the shoulder.

F I G U R E IX.

The teres major, in its fore part.

a The tendinous end, inserted at b b into the oblong eminence c c, that is a little below the less unequal protuberance in the upper head of the os humeri.

Add here Fig. 10.

The *systematic connexion* appears in Tab. III. z α in the scapula, where it is in part cover'd by the subscapularis v, and in part by the coracobrachialis η ζ in the arm. Then in Tab. II. Σ in the scapula, where it is likewise covered by the subscapularis Λ in the scapula, and by the coracobrachialis u in the arm, and moreover by the extremity of the latissimus dorsi Φ in the scapula. Then in Tab. I. σ σ in the trunk, where it is covered by the latissimus dorsi τ , and is hid behind the pectoralis ξ : but in the right arm which hangs down, that part which appears uncovered in the left arm from its elevated position, is obscured or hid from the view.

F I G U R E X.

The teres major, in its back part.

a a Its origin, from the outer part of the lower angle of the scapula, and from the extreme part of its anterior edge.

b The tendinous part of its end.

Add here Fig. 9.

The *systematic connexion* appears in Tab. VII. κ λ μ in the scapula, where its extremity passes under the os humeri. Then in Tab. VI. ψ ψ near the shoulder, where part lies under the infraspinatus ν σ , part under the teres minor τ , and part behind the extensor longus C D in the arm: and in the left arm behind the extensor brevis A. Then in Tab. V. O in the back, where likewise part of it lies behind the infraspinatus I, the teres minor N, and the extensor longus o in the arm; also behind the latissimus dorsi P, and the deltoides ζ in the shoulder.

Laterally its connexion appears in Tab. IX. Ψ in the trunk, where part of it lies under the infraspinatus Π , part under the latissimus dorsi Ω , and part under the deltoides A &c. in the left arm.

F I G U R E XI.

The deltoides, in its fore part.

a The first portion of the first order, of which this muscle is composed, arising tendinous at b b from the fore part of the clavicle c c, where that part is concave: and sometimes also from the tip of the processus acromion scapulæ.

d The anterior portion of the second order, arising tendinous at e from the tip of the processus acromion scapulæ f, betwixt the origins of the portions a and g, betwixt which it is placed and connected.

g The third portion of the first order, arising with a tendinous beginning h, from the extremity of the processus acromion scapulæ, being from its origin conjoined with the tendinous beginnings of the portions, betwixt which it is placed.

k The middle portion of the second order, which arises by a tendinous part l, conjoined with the tendinous beginning of the next portion g, from the processus acromion scapulæ, betwixt the origin of the portion g, and that marked g in Fig. 12. 'Tis inserted into the middle part m, betwixt the two oblong protuberances that are fixed in the os humeri, just above its middle; and it coheres in its extremity with the brachialis internus.

n The tendinous end, formed by the portions a d, and inserted at o into the anterior of the foresaid protuberances of the os humeri.

Add here Fig. 12.

The *systematic connexion* appears in Tab. I. M &c. in the humerus; where at its beginning 'tis covered by the latissimus colli α α α , and at its insertion is covered by the biceps muscle of the arm W.

F I G U R E XII.

The deltoides, in its back part.

a The second and posterior of the first order of portions, of which this muscle is composed, arising with a tendinous origin b b, (running for some way on its external surface) from the lower edge of the spine, and from a large part of the processus acromion scapulæ.

d The posterior portion of the second order, arising with a tendinous beginning e, from the lower edge of the processus acromion scapulæ f, betwixt the portions a and g, and from its origin conjoined together with the tendinous beginnings of the portions, betwixt which it is placed.

g The fourth portion of the second order, arising with a tendinous beginning h, from the processus acromion, bending itself into an arch i i, and conjoined with the tendinous beginnings of the portions, betwixt which it is placed.

k The middle portion of the second order, which arises by a tendinous beginning l, from the edge of the processus acromion, and is conjoined into one with the tendinous beginning of the next portion g.

m m The tendinous end, formed by the portions a d, and inserted at n n into the hindermost of the oblong protuberances in the os humeri, that are fixed just above its middle part: into which also the portion g inserts itself.

o o The place where the flesh is cut off, from its cohesion with the brachialis internus.

Add here Fig. 11.

The *systematic connexion* appears in Tab. V. ζ &c. in the shoulder; where at its beginning it lies under the cucullaris G in the back; at its end under the extensor brevis ξ in the arm.

Laterally its connexion appears in Tab. IX. A &c. in the left arm; where its end lies behind the brachialis internus S.

F I G U R E XIII.

The teres minor, in its back part.

a a Its origin, from the anterior and lower margin of the scapula, and from the whole outer part of the said margin, from the lower angle of the scapula as far as its neck.

b The tendon, inserted into the os humeri at c.

d e Fleshy portions that are inserted together with the tendon, the one above at d, the other below at e.

They are inserted into the lower and back part of the larger unequal protuberance in the upper head of the os humeri, and into the extremity of the lower part of its neck.

Add here Fig. 14.

The *systematic connexion* appears in Tab. VI. τ in the scapula; where at its beginning it is partly covered by the infraspinatus σ , and the teres major ψ . Then in Tab. V. N in the back; where it is also covered by the infraspinatus I, the teres major O, and likewise by the deltoides ζ in the shoulder.

Laterally its connexion appears in Tab. IX. Φ in the trunk; where also at its beginning it is partly covered by the infraspinatus Π , the teres major Ψ , and after that by the deltoides A &c. in the left arm.

F I G U R E XIV.

The teres minor, in its fore part.

a a The tendinous part of its beginning.

b b Its origin from the anterior and lower margin of the scapula.

Add here Fig. 13.

F I G U R E XV.

The subscapularis.

a b c d e Five of the first order of the fasciculi or portions of which it is composed, and which arise from eminences in the hollow part of the scapula near its basis: the first (a) from a little below the upper angle: the fifth e from the root of the lower angle: the three others b c d arise with tendinous portions f. f. f. f. f. in the middle betwixt the former.

g h i k l Five of the second order of the bundles of which it is composed; the four lower of which h i k l are placed betwixt the five of the first order; the uppermost g above the superior of the former. m m m m m the originations of them from the inner part of the scapula.

The third order of portions lie under the first in the intervals betwixt the fasciculi of the second order. These three orders in their origination take up the whole internal surface of the scapula, from its back part almost to its neck; and likewise occupy almost the whole lower part of the round margin of its anterior and lower rim of the costa inferior.

n n The common end of the muscular portions.

o The tendinous end which it forms; inserted at p p into the less unequal protuberance of the upper head of the os humeri, from top to bottom.

q The fleshy part of the extremity, inserted beneath the foresaid tendinous part into the os humeri, below the said less protuberance.

r The less unequal protuberance in the upper head of the os humeri.

The *systematic connexion* appears in Tab. IV. Φ &c. in the scapula. Then in Tab. III. v v &c. in the scapula; where it is partly covered by the coracobrachialis, with the shorter head of the biceps muscle of the arm β &c. in the arm. Then in Tab. II. Λ Λ Π Ξ in the scapula; where it is likewise covered by the coracobrachialis with the shorter head of the biceps brachialis w in the arm; and it is also hid behind the ferratus anticus ν Φ , and the subclavius σ , in the breast. And what part of it appears naked in Tab. II. is in Tab. I. covered by the deltoides M &c. in the shoulder, and the rest is hid behind the pectoralis ξ in the trunk.

F I G U R E XVI.

The supraspinatus, in its back part.

a The fleshy part lodged in the cavity, that is above the spine of the scapula.

b b b Its first origin from the back part of the cavity, that is above the spine: from thence continuing to arise as far as the lunar notch, that is at the root of the coracoide process.

c The tendinous end, inserted at d into the tip of the larger unequal protuberance in the upper head of the os humeri.

Add here Fig. 17.

The *systematic connexion* appears in Tab. VI. ι in the scapula. In Tab. V. it is covered by the cucullaris B H H in the neck and back.

F I G U R E XVII.

The supraspinatus, in its fore part.

a The tendon in which it ends, inserted at b into the tip of the larger unequal protuberance in the upper head of the os humeri.

c c The coracoide process cut off.

Add here Fig. 16.

The *systematic connexion* appears in Tab. II. r s in the arm, where it lies partly under the juncture of the scapula with the clavicle in the top of the shoulder: the rest of it lies behind the coracohyoideus, where that arises from the scapula, and is concealed behind the subclavius σ in the breast. And what appears naked of it in that table, is in Tab. I. seated under the deltoides M &c. in the shoulder.



THE NINETEENTH ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

MUSCLES MOVING THE CUBIT OR FORE-ARM.

FIGURE I.

The brachialis internus.

a b The bifurcated origination of it, from the os humeri, furrounding the lower part of the protuberances into which the deltoides is inserted: below which protuberances, it likewise arises all the way from the whole extent or breadth of that bone, almost as low as the condyles, and along its fore part.

c c c The origin of the posterior horn from the os humeri.

d The lower part of this muscle, which lies near the supinator longus.

e The tendinous surface of its extremity.

f Its insertion into the inner part of the upper head of the ulna.

Add here Fig. 2.

The *systematic connexion* appears in Tab. III. κ &c. in the arm, where it lies under the portion that joins the long flexor of the thumb, Φ in the cubit. Then in Tab. II. θ -- κ in the arm, where the rest lies under the biceps brachialis $\alpha\beta\gamma$, and under the sublimis D in the cubit. Then in Tab. I. $\Delta\Delta\Delta$ in the arm; where also it lies under the biceps brachialis Y Z Γ , the pronator teres Φ , and the supinator longus II.

FIGURE II.

The brachialis internus, in its outer part.

a The first horn of its beginning. b b its origination from the bone of the humerus.

c c c Its inferior and hollow part; on which lies the supinator longus.

Add here Fig. 1.

The *systematic connexion* appears in Tab. VII. ω A in the arm; where it in part lies under the longer radialis externus C C. Then in Tab. VI. P in the arm; where it is likewise covered by the longer radialis externus R, and also by the triceps brachialis ω F. Then in Tab. V. ψ in the humerus, in like manner covered by the triceps brachialis ξ e, and by the longer radialis externus B in the fore arm, also by the supinator longus ω .

Laterally it appears in Tab. IX. S in the left arm, and ζ in the right arm.

FIGURE III.

The biceps brachialis.

a b c The shorter head. a the origination of that head outwardly tendinous, springing at b from the upper part of the end of the coracoid process of the scapula. c its fleshy belly.

d e f g The longer head. d e f the tendon by which it begins: arising at d from the same upper and outer edge of the sinus in the scapula, into which the head of the os humeri is articulated; where also the tendon is continuous with the ligament that enlarges the rim of the said sinus scapulæ. From thence it runs down over the head of the os humeri d--e: and then thro' the groove or channel that is betwixt the two unequal protuberances at the head of that bone e--f, to form the fleshy belly g.

h The common belly of this muscle.

i The tendon, by which it is inserted into the radius.

k The aponeurosis, (which it sends to the tendinous fascia or covering of the cubit), cut off at l l.

Add here Fig. 4.

The *systematic connexion* of it appears in Tab. II. w-- γ in the arm. Then in Tab. I. W--T in the arm; where at its beginning it lies under the pectorals ξ in the breast, and the deltoides M &c. in the arm; at its end, under the pronator teres of the radius, Φ in the right arm.

In its back part it appears in Tab. VI. O in the arm. Laterally in Tab. IX. P Q R in the left arm, and η θ in the right arm.

FIGURE IV.

The end of the tendon of the biceps, on the external part of the radius.

Because the hand is here in a prone posture, the end of the tendon which is smooth, appears bent forwards to the anterior part of the tubercle, that stands out from the radius below its neck.

a a Its insertion into the back part of the said tubercle, thro' its whole length. Add here Fig. 3.

The *systematic connexion* of this part does not appear: but it follows after the supinator brevis Δ in the arm of Tab. VI.

FIGURE V.

The triceps brachialis, in its inner part.

a b The head which is call'd *extensor-longus*. b the tendinous beginning.

c d The head call'd *brachialis externus*. d the tendinous beginning of its posterior margin, which arises at e e from the posterior edge of the os humeri, and then from the tendon f f.

f f g g h A certain tendon that stands out from the os humeri, along which it arises at g g, and is inserted at h into the posterior condyle of that bone.

i The tendon, which arising from the surface of the brachialis externus, belongs to the posterior condyle of the humerus k, and is conjoined with the tendon f f.

l m The caput or *extensor-brevis* as it is call'd: m the tendinous part of its beginning.

n The space betwixt that head and the os humeri, thro' which a considerable nerve, artery, and vein, pass along to the cubit.

Add here Fig. 6. and 7.

The *systematic connexion* appears in Tab. II. δ ϵ ζ η in the arm; where it in part lies hid behind the coracobrachialis u, and the biceps brachialis x z α : and the longus ϵ in its upper part goes under the teres major Σ in the scapula; the brevis δ is covered by the brachialis internus θ in the arm. Then in Tab. I. T V Δ Θ in the arm; where in the same manner it lies concealed behind the coracobrachialis R S, and the biceps brachialis W X Y: and the longus T goes under the teres major σ in the trunk; and the brevis V is covered by the brachialis internus Λ . But separately, the part call'd brachialis externus Tab. III. θ in the arm; is there partly covered by the coracobrachialis ζ : then in Tab. II. ζ η in the arm; and in Tab. I. Δ Θ in the arm; as we said before.

FIGURE VI.

The triceps brachialis, in its outer part.

a b c c c d The *caput brevis* as it is call'd. b the tendinous part of it, arising at c c c from the outer part of the os humeri, at the root which sustains the upper head of that bone, thence descending in its origination, at first a little obliquely as far as the back part of the end of the deltoides, then according to the length of the bone by the back part of the anterior horn of the brachialis internus, and then behind the said inner brachialis itself, to the anterior margin of the os humeri; and having left a space (n Fig. 5.) at about the middle of the arm, it is then again continued on for some way in the direction of the said margin. d the sinuosity impressed on this muscle by the deltoides.

e f g h The *caput longus* of this muscle. f the tendinous beginning, by which it springs from the bottom of the neck of the scapula at g, and from the extreme part of the margin that is beneath its neck. h a sinuosity impressed by the deltoides.

i The head call'd *brachialis externus*.

k The common tendon of these three heads. In the outer part of which the caput brevis terminates here very suddenly and sooner than usual, close by the caput longus: and the fleshy fibres of the same join themselves in a continued straight course all the way to those of the longus, and in their lower part externally to the tendinous portion l, that is formed by the longus.

m The tendinous portion, that is formed by the brachialis externus, and joins the common tendon.

But the manner in which the longus forms a broad tendon internally, towards the brevis, and how the fibres of the brevis join the same, as the fibres of the longus join the brevis outwardly, could not be expressed in the figure.

n The tendinous portion, which arising from the surface of the brachialis externus, belongs to the larger and interior condyle of the humerus.

p q The common tendon, inserted chiefly into the outer part of the tip of the olecranon or elbow.

r The smaller point of the common tendon, inserted at q f into the anterior part of the elbow, and the ridge that stands out from thence along the ulna.

Add here Fig. 5. and 7.

The *systematic connexion* appears in Tab. VI. ω --N in the arm; where the beginning of the longus D is covered by the teres minor τ in the scapula. Then in Tab. V. ξ -- χ E in the arm; where the originations of the longus ω , and of the brevis ξ , are covered by the deltoides ζ , &c.

Laterally its connexion appears in Tab. IX. T--X in the left arm, and α -- ϵ in the right arm.

FIGURE VII.

The lower head of the triceps brachialis, commonly call'd the brachialis externus, represented in its outer part.

That this may appear, the longus and brevis, with part of the common tendon belonging to the three heads are cut off; under which tendon it is seated in its outer part. Particularly the flesh of the longus is cut off at a--b; that of the brevis with the common tendon from b--c; and the part of the brevis cut off is outwardly tendinous, inwardly fleshy.

d e The brachialis externus, in which are impressed the marks of the longus at d, and of the brevis at e.

NINETEENTH MUSCULAR TABLE.

fff Its origin from the outer part of the os humeri, taking its beginning first near the bottom of the place into which the teres major is inserted, and from thence with its anterior side or edge it takes an oblique course to the anterior margin of the os humeri, and thence to the root of the anterior condyle of that bone; and from the outer part of that root at g thro' the whole extent or height of the same.

And from its origin it occupies the whole breadth of the bone, that is contained betwixt its anterior and posterior margin e f f Fig. 5.

h A part that is tendinous.

i The tendinous portion, arising from the surface of the brachialis externus, and belonging to the larger condyle of the humerus k.

l The tendon common to the triceps.

m The tendinous part, that is form'd by the longus, and joined to the common tendon.

Here then appears the manner in which the flesh of the outer brachialis joins partly with the flesh of the brevis and longus, partly with the tendons of those two, and in part with the interior common tendon.

n The tendinous part, which the external brachialis forms and joins to the common tendon.

o o The common tendon, inserted into the outer part of the tip of the olecranon or elbow.

p Here the brachialis externus extends its fleshy part with the common tendon to the elbow.

Add here Fig. 5. and 6.

The systematic connexion appears in Tab. VII. ξ -- ψ in the arm.

FIGURE VIII.

The anconæus.

a The tendon, by which it begins, and arises at b from the outer and lower part of the lesser condyle of the humerus.

c c Its extremity, inserted into the fore part of the elbow, just below the brachialis externus; also into the outer edge of the ulna below the said part of the elbow.

The systematic connexion appears in Tab. VI. Y &c. in the arm. Then in Tab. V. F in the cubit or fore-arm; where it is partly covered by the tendon of the triceps brachialis χ , and the outer ulnaris W.

MUSCLES MOVING THE HAND.

Add here the biceps brachialis Fig. 3. and 4.

FIGURE IX.

The radialis internus carpi.

a The tendinous beginning, by which it springs at b from the end of the posterior condyle of the os humeri.

But it is to be observed that the radialis internus, palmaris longus, ulnaris internus, and sublimis, arise with one common tendinous head from the said posterior condyle of the humerus; with which head also the beginning of the pronator teres coheres: and that the said head detaches a sort of branches or partitions to which at their originations those muscles adhere, or the parts of which tendinous head belong to each of those muscles, in the manner represented in the shorter radialis externus Fig. 11. l. But we have here represented each of those muscles separated from one another according to the course of their fibres, in the same manner with the last mentioned. The fore-mentioned muscles likewise in part arise from, or rather cohere with, the tendinous covering of the cubit.

c The tendon, in which this muscle ends, and which at d being increased in thickness, passes thro' the oblong sinus that is seated on the inner part of the larger multangular bone, and is at last inserted at e into the middle of the internal and upper part of the head of the first metacarpal bone that sustains the index.

The manner in which the tendon enters the membranous canal, that is at the fore part of the ligament, which covers the tendons running from the cubit to the hand or the inner side of the wrist, see in Tab. I. Ω W in the right hand. The channel itself see in Tab. II. p in the right hand, and in Tab. III. S in the right hand.

The systematic connexion appears in Tab. I. Ψ Ω in the arm; where at its origin it lies under the pronator teres Φ , and the palmaris longus α ; then under the supinator longus Π : in the end the tendon passes into the middle of the palm.

Laterally its connexion appears in Tab. IX. μ in the right arm, and c d in the left arm.

FIGURE X.

The ulnaris internus, in its interior part.

a The tendinous beginning, arising at b from the greater condyle of the humerus, and cohering with the common tendinous head of the muscles which arise from the said condyle; from which head it is separated in the manner mentioned in the radialis internus Fig. 9. Part of this common tendinous head runs along way thro' the fore part of the muscle at c.

d The origin of it from the elbow.

e e The thin and broad portion, that is a sort of continuation of the said origin d; and which here at f f goes off from the tendinous vagina or covering of the cubit g. Unless we shou'd rather say that this part arises tendinous from the ulna, together with the said vagina, being strictly conjoined with that into one.

h The tendon, in which it ends, inserted at i into the prominent part of the pisiform bone of the wrist, where that bone is most protuberant towards the palm. We have sometimes seen this tendon, after inserting itself into the

pisiform bone, continue itself further on, to the crooked process of the cuneiform bone of the carpus, and to be there inserted.

Add here Fig. 11. a--h.

The systematic connexion appears in Tab. II. A A B in the arm; where it is in part covered by the sublimis C D H, and beneath that, also under the profundus. Then in Tab. I. ν ξ o in the arm; where it is also covered by the sublimis ζ , &c.

k The ligament, that is extended from the pisiform bone of the wrist l, to the inner and upper part of the superior head of the fourth metacarpal bone of the hand at m.

FIGURE XI.

The ulnaris internus, and shorter radialis externus, externally.

a--k The ulnaris internus.

a Its beginning, arising at b from the lower and back part of the greater condyle of the humerus, and cohering with the common tendinous head of the muscles, which arise from the said condyle.

c The beginning of it from the posterior edge of the olecranon, but little below the end of the tendon of the triceps brachialis.

d d The thin and broad portion, which is a sort of continuation of the said beginning c, and which in this part e e goes off from the tendinous vagina of the cubit; if it does not rather arise with a thin tendinous beginning i, conjoined into one with the said vagina, from the spine of the ulna k k, and which continuation stands out from the back part of the olecranon. In the part f g it arises below from the same spina ulnæ.

h The tendon, inserted into the pisiform bone.

Add here Fig. 10.

The systematic connexion appears in Tab. VI. l--q in the arm. Then in Tab. V. R--V in the cubit.

Laterally it appears in Tab. IX. π σ in the right arm, and Y in the left arm.

l--r The shorter radialis externus.

l Its origin, from the anterior and less condyle of the humerus, with a tendinous head common to the extensor digitorum communis, the extensor auricularis proprius and the ulnaris externus. But these muscles cohere so together in their origin, that they may be either said to spring from the os humeri by a common tendon, that sends out branches or partitions dividing them into so many portions, from which partitions their fibres also continue to arise, and by which they cohere together: or else those partitions may be esteemed as a tendinous excursion of the beginning of any two of the muscles betwixt which they are placed, and from which the fibres of each proceed. Altho' more properly a portion of the common tendinous origin, and of the partition, belongs to each apart; but the parts thereof so strictly cohere and are conjoined one with the other, that they resemble and may be accounted a tendinous origin common to them all, and branches or partitions common to each two next continuous muscles. But here we have represented this radialis separated according to the course of its fibres from the extensor digitorum communis; because whether we chuse to say they have one common origin and partition, or refer the partition to one muscle from whence the other may proceed, or rather ascribe a part of the partition to each particular muscle; in all these cases the origin is still from the anterior condyle of the humerus.

m The tendinous beginning, separated from the said common head. The tendinous part runs along for a considerable way at n n; where a sinus is impressed by the common extensor of the fingers.

o The inner portion, which is tendinous.

p The tendon, in which it ends; inserted chiefly at q into the anterior and outer part of the root of the upper head of the metacarpal bone, that belongs to the middle finger; and likewise into the next adjacent upper head of the metacarpal bone of the index.

r The course of the tendon thro' the back part of the sinus, which is the first or most anterior of those in the outer or back part of the lower head of the radius: and it is retained or tied down by the outer armillary ligament of the carpus Tab. V. 16 in the right hand; and in Tab. IX. ζ in the left hand.

Add here Fig. 12.

The systematic connexion appears in Tab. VII. G H I in the cubit; it partly lies under the longer radialis externus B E, and the supinator brevis K. Then in Tab. VI. V W X in the arm; where it also lies under the longer radialis externus Q T, and the supinator brevis Δ , with the long abductor of the thumb Λ , the less extensor of it Ψ , and the larger extensor a c, with the indicator f h. Then in Tab. V. H I I I in the cubit; placed also under the longer radialis externus A D, the long abductor of the thumb 21, the less extensor of it 24, and the larger 13; and also under the common extensor of the fingers d r.

Laterally its connexion appears in Tab. IX. l m m in the left arm.

FIGURE XII.

The shorter radialis externus, in its fore part.

a The tendinous beginning.

b The tendon, in which it ends; inserted chiefly at c into the upper and outer part of the root of the upper head of the metacarpal bone, that belongs to the middle finger; also into the next adjacent upper head of the metacarpal bone of the index.

d Its course thro' the posterior part of the sinus, which is the most anterior of those in the outer or back part of the lower head of the radius: and it is there tied down by the outer armillary ligament e in the left arm of Tab. I.

Add here Fig. 11. l &c.

The systematic connexion appears in Tab. III. ϕ χ χ ψ in the left fore-arm, and ϕ χ in the right; where it in part lies under the longer radialis externus σ -- τ in the left, and π σ in the right cubit or fore-arm. Then in Tab. II. σ σ σ σ in the left cubit, and σ σ in the right; where in like manner it lies under the longer radialis externus ν ξ o in the left, and λ μ in the right fore-arm; also

NINETEENTH MUSCULAR TABLE.

also under the long abductor of the thumb Z, the less extensor e, and the larger extensor g, with the indicator Ψ in the left hand. Then in Tab. I. k k l l l in the left arm, placed likewise under the longer radialis externus f g i, the long abductor of the thumb Φ , with the less extensor of it c, and the larger y in the hand; also under the tendon of the common extensor of the fingers, belonging to the index o, and that to the supinator longus $\Pi \Sigma$ in the arm.

FIGURE XIII.

The longer radialis externus, in its outer or back part.

a a Its origin from the anterior edge of the os humeri, and continued along at b from the anterior or less condyle of that bone.

c The place where it joins and has a common origin with the extensor digitorum communis of the hand, and with the ulnaris externus. See Tab. V. C in the cubit or fore-arm.

d The tendinous part of its beginning.

e The tendon, in which it ends; inserted at f into the outer and fore part of the root of the upper head of the metacarpal bone of the index.

æ The course of the tendon thro' the fore part of the second sinus, that is the most anterior of those in the back part of the lower head of the radius: and it is tied down or confined by the outer armillary ligament 16 in the right hand of Tab. V. and which in Tab. IX. is marked ζ in the left hand.

g The interior part of this muscle.

Add here Fig. 14.

The *systematic connexion* appears in Tab. VII. B--F in the cubit; where its fore part is covered by the shorter radialis externus G H. Then in Tab. VI. Q--U in the arm; where at its origin it lies under the triceps brachialis L: but its tendon under the long abductor of the thumb Λ , the less extensor of it Ψ , and the larger a c: also its fore part is covered by the shorter radialis externus V. Then in Tab. V. A--D in the cubit; where in like manner it lies under the triceps brachialis, g in the arm, the long abductor of the thumb 21 in the cubit, its less extensor 24, and the larger 13, with the shorter radialis externus H, and the supinator longus ω .

Laterally its connexion appears in Tab. IX. g h i i k in the left arm.

FIGURE XIV.

The longer radialis externus, in its fore part.

a The tendinous beginning.

b. c The division of it into two parts, of which b is the principal.

d The tendon, in which the chief portion ends; and which is larger than the other.

e The tendon in which the less portion ends; and which conjoins itself with the other tendon d, and forms therewith,

f The common tendon, inserted at g into the outer and fore part of the root of the upper head of the metacarpal bone that sustains the index.

h The course of the tendon thro' the fore part of the second sinus, which is the most anterior of those in the back part of the lower head of the radius: and it is tied down by the outer armillary ligament, Tab. I. e in the left wrist.

Add here Fig. 13.

The *systematic connexion* appears in Tab. III. σ -- υ in the left cubit, and π g in the right cubit; where at its origination it lies behind the brachialis internus ξ . Then in Tab. II. γ -- ϵ in the left cubit, and λ μ in the right cubit; where, as before, it lies behind the brachialis internus ι , and is also covered by the long abductor of the thumb Z, (and a b d in the right cubit) with the less extensor of the thumb e, and the larger extensor g. Then in Tab. I. f g h i in the left arm, and g h in the right; there likewise seated under the long abductor of the thumb Φ (χ b in the right arm) the less extensor c, and the larger extensor y, in the left hand, and also under the long supinator Π in the arm.

FIGURE XV.

The ulnaris externus.

a The tendinous beginning arising at b from the outer part of the anterior condyle of the os humeri; where it is separated from the origin of the common extensor of the fingers, and proper extensor of the little finger, as also from the common head of the shorter radialis externus, Fig. XI. See it conjoined in Tab. V. X in the cubit.

Also a pretty broad and thin portion is sent off by this tendinous origin, from below the end of the anconæus, at the outer part of the anterior edge in the middle of the ulna, to this muscle.

c Part of the tendinous vagina or covering seated next under the common integuments, and binding together the muscles that lie on the outer part of the cubit; arising together with the tendinous beginning a from the condyle b. From the inner side of this portion the ulnaris externus arises, and conjoins the beginnings of its fibres therewith.

d d The place where the vagina is cut off a little below the origin of the ulnaris from it.

e The tendon in which it ends. f the course of it thro' the anterior and outer sinus or groove in the lower end of the ulna; where it is retained or tied down by a ligament 14. 15. 17 in the right hand of Tab. V. and in the left hand γ α , and in Tab. IX. ζ in the left hand.

g Its insertion into the upper part of the eminence that is in the back part of the upper head of the fourth metacarpal bone of the hand.

The *systematic connexion* of it appears in Tab. V. W--Z in the cubit; where at its end it goes a little way under the abductor of the little finger β in the right hand.

Laterally its connexion appears in Tab. IX. n o in the left arm, and r in the right.

FIGURE XVI.

The supinator longus.

a b The tendinous beginning which has here a division, and arises at c d d from the lower part of the anterior edge of the os humeri, just above the origin of the longer radialis externus.

a b e The sinuosity that is impressed by the brachialis internus.

f The tendon in which it ends, and is inserted at g into the fore part of the lower head of the radius, at the beginning of that sinus thro' which the tendons of the long abductor, and less extensor of the thumb, pass from the cubit to the hand.

The *systematic connexion* appears in Tab. I. $\Pi \Sigma$ in the arm, where at its beginning it lies under the brachialis internus Λ , and towards its insertion under the long abductor of the thumb χ b, and the less extensor c.

Posteriorly its connexion appears in Tab. V. ω in the cubit or fore-arm; where at its origin it is covered by the triceps brachialis ξ g in the arm, and then by the longer radialis externus, A in the cubit.

Laterally its connexion appears in Tab. IX. Z a in the left arm, and x in the right.

FIGURE XVII.

The supinator brevis in its outer part.

a The tendon, arising at b from the lower part of the end of the anterior condyle of the os humeri.

c c The part that is outwardly tendinous, arising all the way tendinous at d e from the outer part of the capsular ligament, that investeth the juncture of the radius with the humerus and ulna, from which ligament it is cut off; e f its origin from the fore part below the sinus of the ulna, by which its head is articulated with the radius, from whence it is continued for some way downwards.

g Its extremity inserted into the radius.

Add here Fig. 18.

The *systematic connexion* appears in Tab. VIII. Θ , &c. in the arm. Then in Tab. VII. K, &c. in the cubit; where it is partly covered by the shorter radialis externus G. Then in Tab. VI. Δ in the arm, where it is partly covered by the said radialis externus V, and in part by the anconæus Y: and what is there naked, in Tab. V. lies under the ulnaris externus W, the common extensor of the fingers d, and the proper extensor of the little finger a b, in the cubit.

FIGURE XVIII.

The supinator brevis in its interior part.

a The tendon by which it begins.

b The place where it inserts itself near the upper eminence of the radius, into which the biceps brachialis is inserted. It is also inserted at c c c round the margin of the tubercle that is next above the said eminence; from the upper part of it forward and downward. After this it is continued obliquely forward along the inner part of the radius almost to the middle of its length; and from thence outward, on the back of the cubit: add here Fig. 17.

e The back part of this muscle is seen betwixt the radius and ulna.

Add here Fig. 17.

The *systematic connexion* appears in Tab. IV. b--f in the cubit. Then in Tab. III. ω -- Θ in the cubit, where it is in part covered by the brachialis internus ξ o, by the longer radialis externus π (and σ in the left arm) and by the shorter ditto Φ , the pronator teres Λ , the long flexor of the thumb $\Pi \Sigma$, and the profundus C. Then in Tab. II. τ -- Φ in the cubit; covered likewise, as in Tab. III. by the brachialis internus ι x, the longer radialis externus λ (and ν in the left arm) the shorter ditto σ , the pronator teres Ψ , and the profundus χ ; and moreover by the tendon of the biceps brachialis γ , and the sublimis G. Then in Tab. I. Ξ in the arm; covered by the tendon of the biceps brachialis Γ , the brachialis internus Λ , the supinator longus Π , and the pronator teres Φ .

FIGURE XIX.

The pronator teres, in its inner part.

a a Its origination from the inner and upper part of the posterior condyle of the os humeri.

b The part that is outwardly tendinous.

c The tendon in which it ends.

Add here Fig. 20.

The *systematic connexion* appears in Tab. I. Φ in the arm; where its end goes under the supinator longus Π . Then in Tab. II. where its extremity Ψ in the cubit goes under the shorter radialis externus σ c. So in Tab. III. the extremity of it Λ in the cubit goes under the same radialis Φ χ .

Laterally its connexion appears in Tab. IX. λ in the right, and b in the left.

FIGURE XX.

The extremity of the pronator teres, in its outer part.

a The tendinous end, inserted at b b into the unequal surface that is formed for that purpose in the gibbous part of the radius.

Add here Fig. 19.

[K k]

NINETEENTH MUSCULAR TABLE.

The *systematic connexion* appears in Tab. VI. lying under the shorter *radialis externus V*, and the long abductor of the thumb Λ , in the arm.

FIGURE XXI.

The pronator quadratus in its inner part.

- π a The tendinous surface.
- b b Its origin, from the oblong eminence in the inner and back part of the ulna, not much above the lower head of that bone.
- c c Its insertion into the lower part of the radius, as well into the flat interior surface of it, as into the side that is next the ulna, and which cannot be seen in the figure.

Add here Fig. 22.

The *systematic connexion* appears in Tab. IV. g--k in the cubit. Then in Tab. II. $\Xi \Xi$ in the cubit; where the greater part is covered by the long flexor of the thumb $\Pi \Sigma$, and the profundus E F G. Then in Tab. II. Y in the cubit; covered as before by the long flexor of the thumb S T, also by the long abductor of the thumb a b d, and ulnaris internus A B. Then

likewise in Tab. I. τ in the arm; where it is covered by the long flexor of the thumb π , and by its long abductor $\chi \omega$ b, and ulnaris internus ν .

Posteriorly its connexion appears in Tab. VIII. Φ in the right arm. Then in Tab. VII. P in the right cubit. But in Tab. VI. it lies under the indicator f h, the larger extensor of the thumb a c, and the less extensor of ditto, ψ with the long abductor Λ in the arm.

Add to these Tab. VIII. Φ in the left arm. Then Tab. VII. P in the left cubit, where it is in part covered by the profundus S T, &c. Then in Tab. VI. r in the left arm; where it is covered by the ulnaris internus l q. So likewise in Tab. V. ϵ in the extremity of the left cubit; where it is also covered by the ulnaris internus R V.

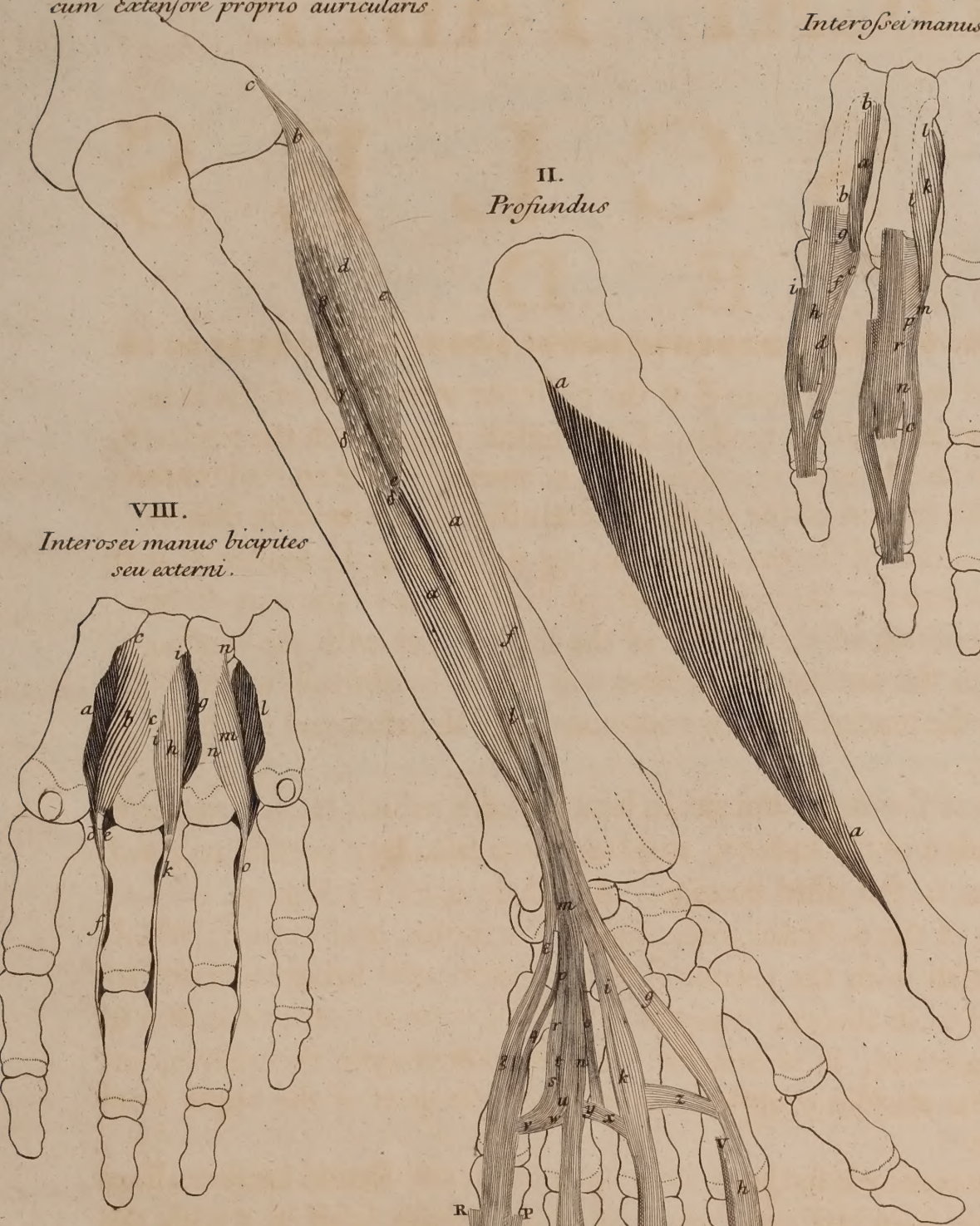
FIGURE XXII.

The pronator quadratus laterally.

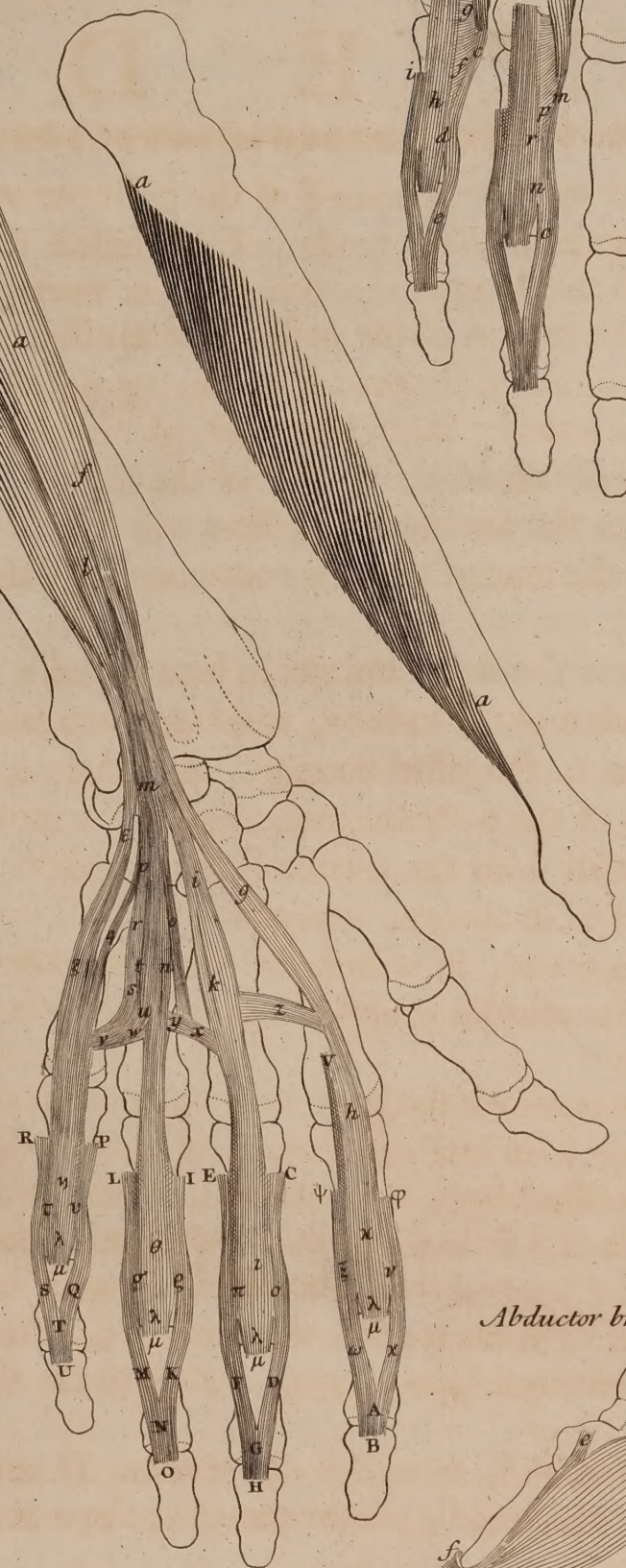
- a a Its tendinous surface.
 - b b Its origination from the oblong eminence in the inner and back part of the ulna, not much above its lower head.
- Add here Fig. 21.



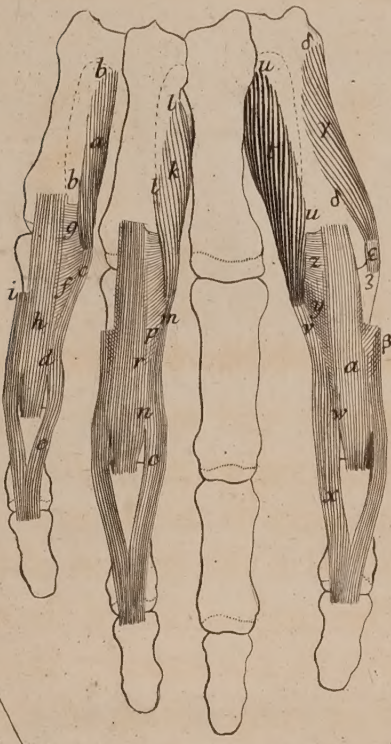
I.
Extensor communis digitorum manus
cum Extensore proprio auricularis



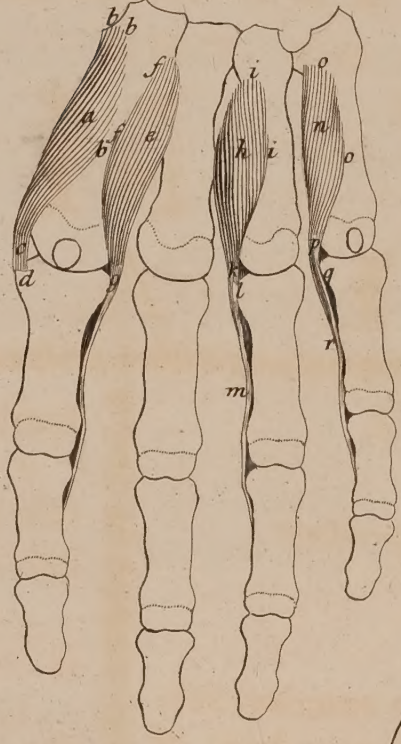
II.
Profundus



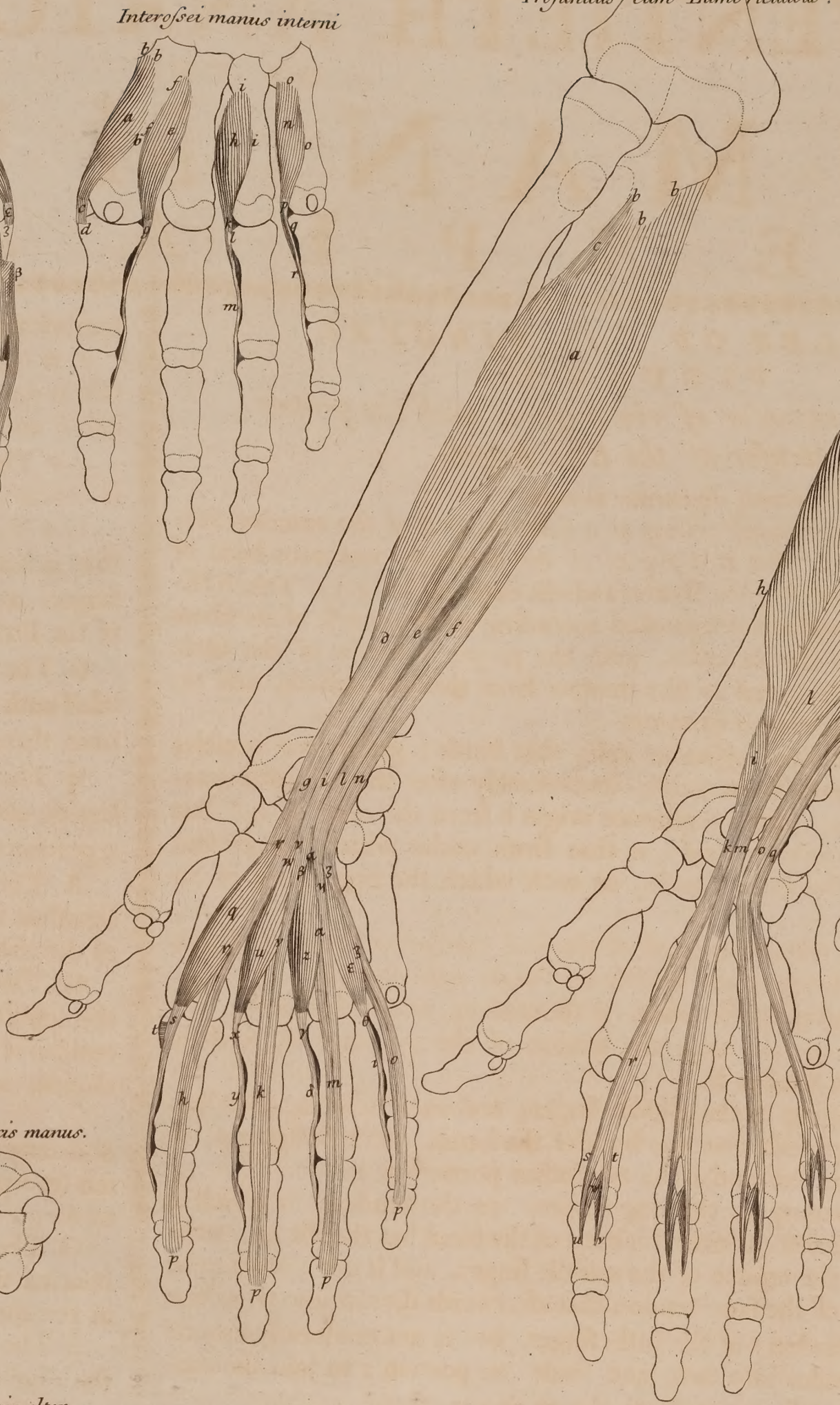
VI.
Interossei manus interni



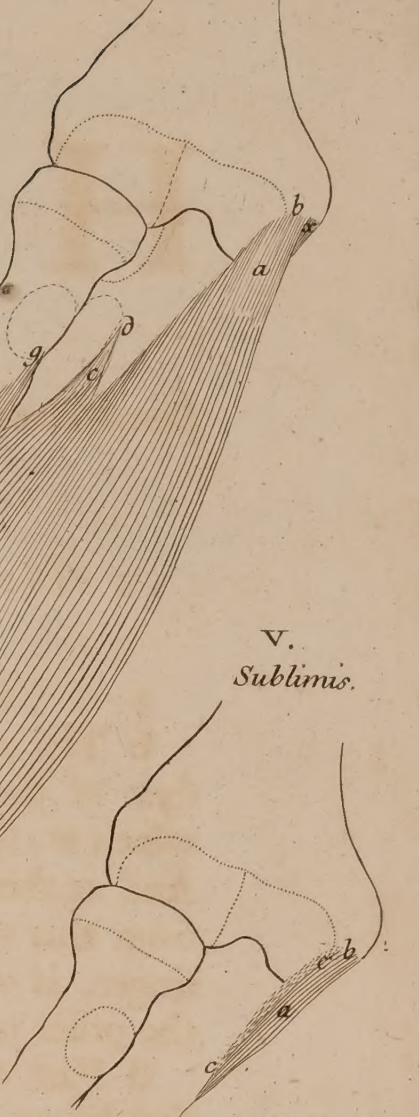
VII.
Interossei manus interni



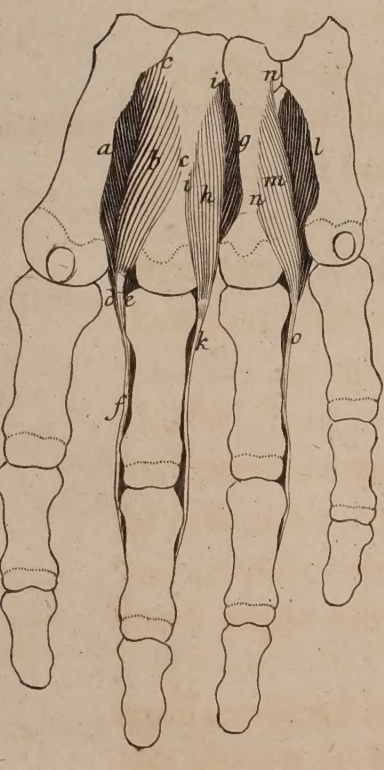
III.
Profundus cum Lumbricalibus



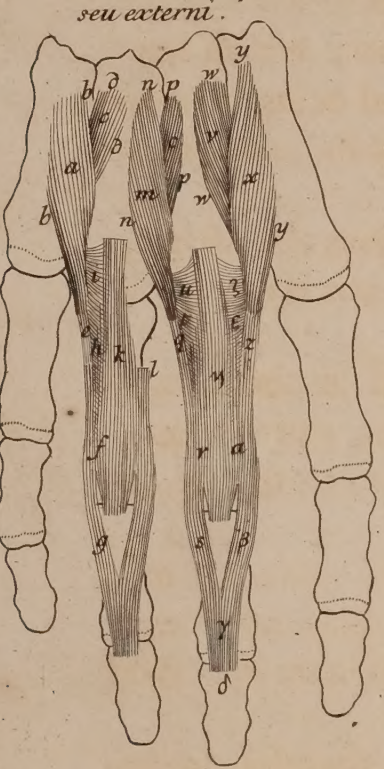
IV. TAB. XX.
Sublimis



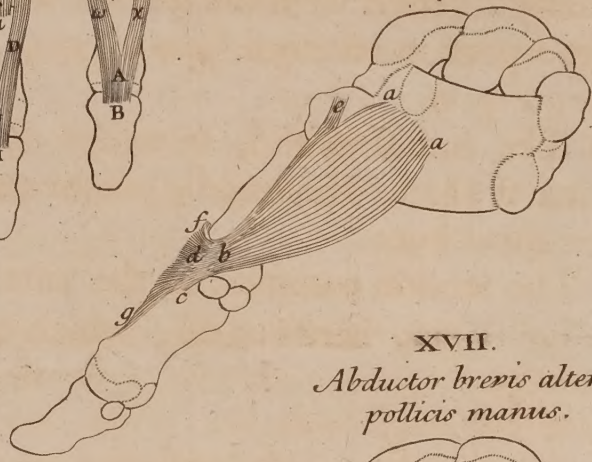
VIII.
Interossei manus bicipites
seu externi



IX.
Interossei manus bicipites
seu externi



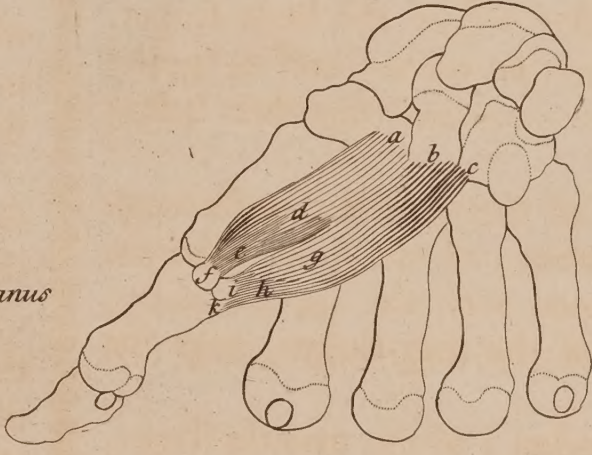
XVI.
Abductor brevis pollicis manus.



XVII.
Abductor brevis alter
pollicis manus.



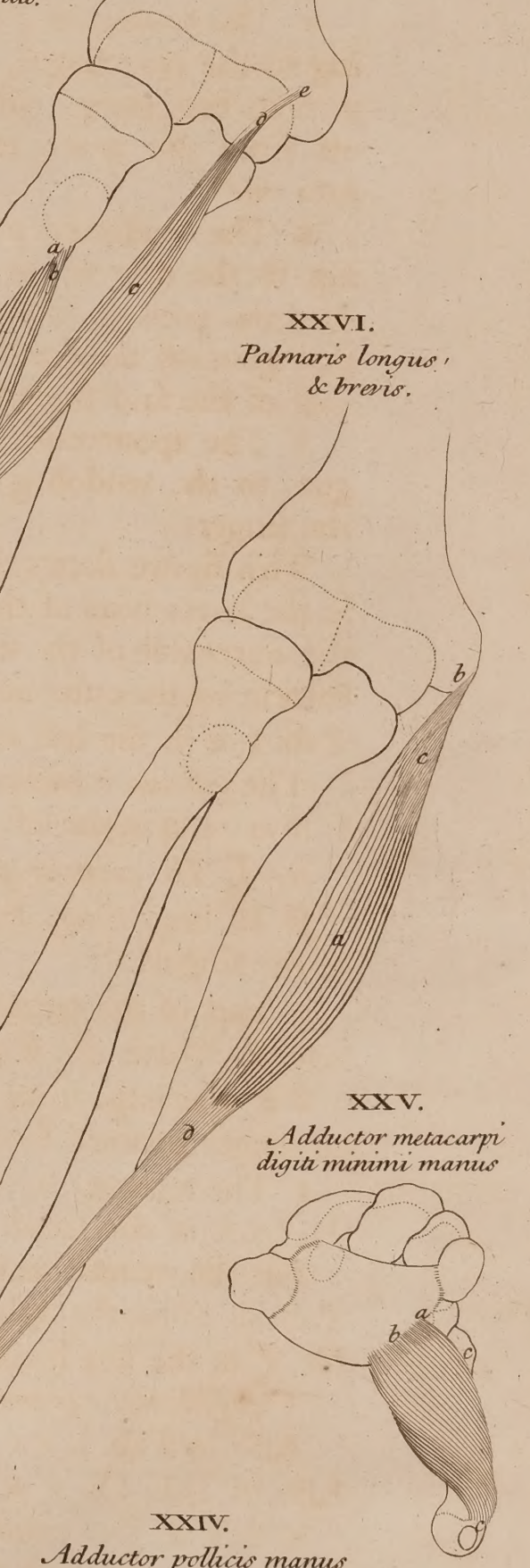
XX.
Flexor brevis pollicis manus.



XIX.
Abductor longus pollicis manus



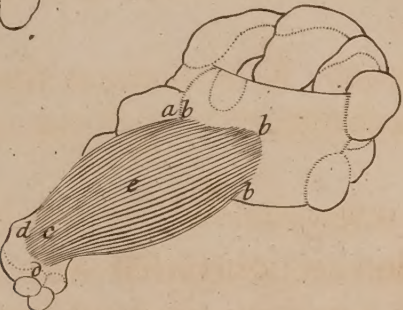
XXI.
Flexor longus
pollicis manus.



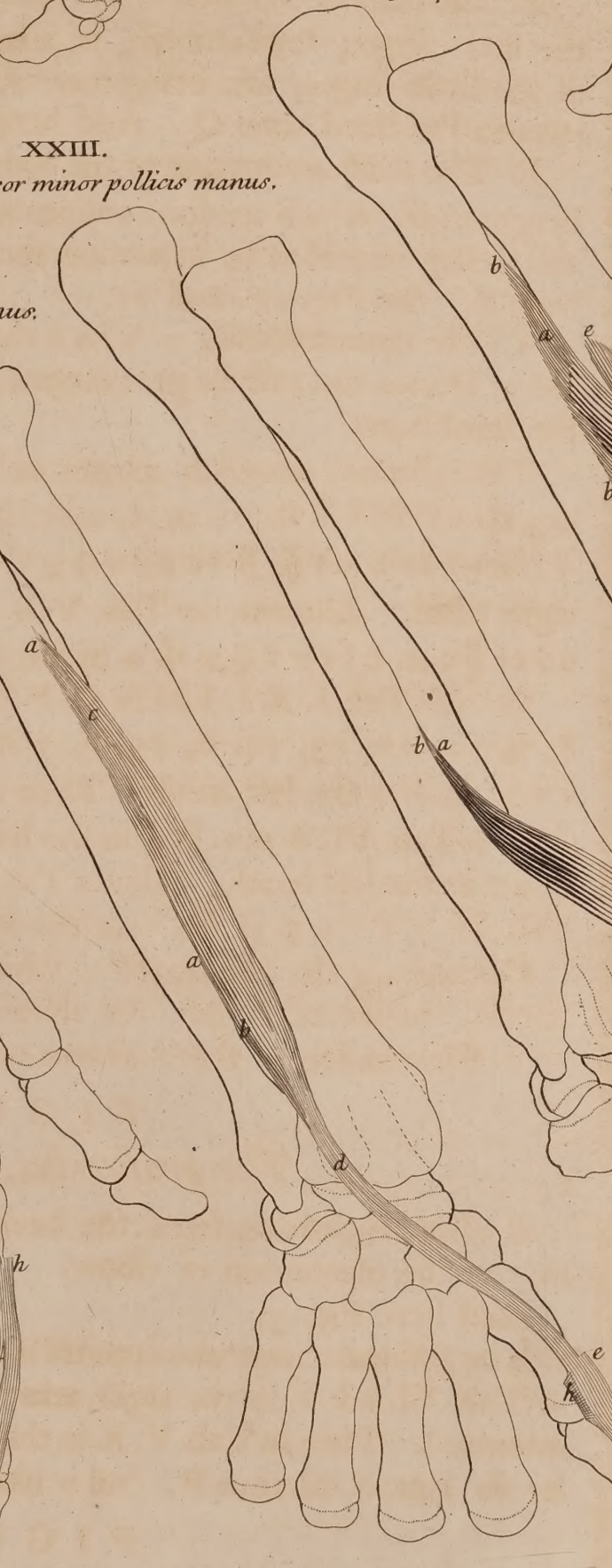
XXVI.
Palmaris longus
& brevis.



XV.
Opponens pollicis manus.



XVIII.
Abductor longus pollicis manus



XXIII.
Extensor minor pollicis manus.



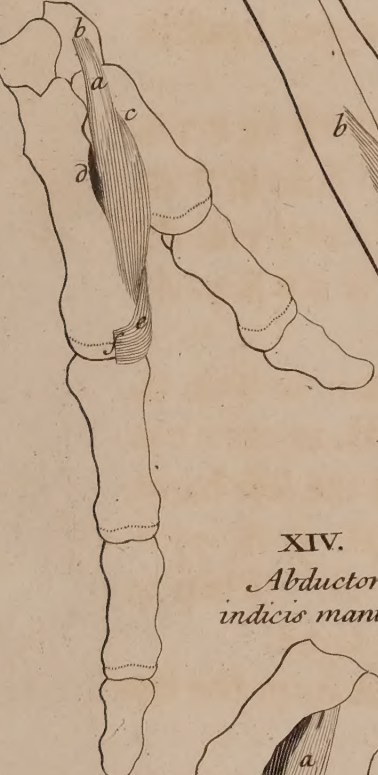
XXII.
Extensor major pollicis manus.



XII.
Indicator.



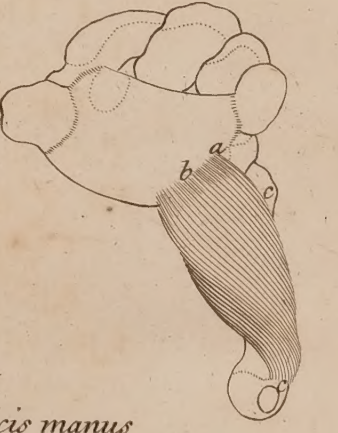
XIII.
Abductor
indici manus.



XIV.
Abductor
indici manus



XXV.
Adductor metacarpi
digiti minimi manus



XXIV.
Adductor pollicis manus



THE TWENTIETH ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

MUSCLES OF THE FINGERS. FIGURE I.

The common extensor of the fingers, with the proper extensor of the little finger.

a--z The *extensor communis digitorum manus*.

b The tendinous beginning, arising at c from the end of the anterior condyle of the os humeri. But it is a part of the common tendinous head of which we spoke in describing the shorter radialis externus l Fig. 11. Tab. XIX. And as there the said radialis is separated according to the course of its fibres from this extensor; so this extensor, with the proper extensor of the little finger, is on one side separated in like manner from the said radialis, and on the other side from the ulnaris externus.

d Part of the tendinous vagina or case, that binds together the muscles that lie on the outer part of the cubit, immediately after the common integuments; and springing with a tendinous origin b from the condyle c. But this part of the said vagina or case, is that from under which the present common extensor of the fingers arises, or with which the beginnings of its fibres are conjoined.

e e The edge from whence the rest of the said tendinous swath or vagina is cut off, where the fibres of the muscle no longer arise from it.

f The portion belonging to the index. g the tendon, in which it ends; and which is afterwards conjoined with the tendon of the indicator V, whence is formed the common tendon h.

i The tendon belonging to the middle finger; and in which tendon is formed the slit k, as it descends over the back of the hand. The fleshy portion that forms this tendon, lies under the two other portions f. l.

l The portion belonging to the ring finger. m the tendon, in which it ends; and which in its descent over the back of the hand has the slit n. o the branch of it that joins the tendon of the middle finger, and is not always to be found. p the branch of the same tendon that afterwards divides into two, one of which q joins the tendon ϵ of the little finger, but is not constantly found: the other r, again divides into two, and sends one portion s to join the tendon of the little finger ϵ ζ , or rather to the tendon q, that is conjoined with the tendon belonging to the little finger.

v The tendinous portion, by which the trunk of the tendon m n belonging to the ring finger, is conjoined with the tendon ϵ ζ of the little finger, near its beginning; which portion is formed of the two parts s and u, going off from the aponeurosis w, of the tendon m n conjoined together below into one.

x The tendinous portion, by which the trunk of the tendon m n belonging to the ring finger, is conjoined with the tendon i of the middle finger. And this portion is formed of the tendon o conjoined with the aponeurosis y, that goes off from the trunk of the tendon m n of the ring-finger, near the root of the said finger.

z The aponeurosis, which arising from the tendon i of the middle finger, goes to the tendon g of the index, and conjoins together near the roots of the fingers.

This figure shews the manner in which the tendons pass thro' the 3d sinus in the lower head of the radius, and which is the most posterior of those in the outer side of the wrist: but for the manner in which they are tied down therein by the outer armillary ligament, see Tab. V. 16 in the right hand; and Tab. I. e in the left arm; also Tab. IX. ζ in the left hand.

The *systematic connexion* appears in Tab. V. d &c. in the cubit. Also in Tab. I. m n o p q in the left arm. And in Tab. IX. p q r s t in the left arm and hand

a-- ζ The *extensor proper to the little finger*.

β Its beginning, conjoined with the beginning of the common extensor of the fingers.

γ Part of the tendinous swath of the cubit before-mentioned at d. From beneath which the fibres of this muscle arise.

δ δ The edge from whence the rest of the swath is cut off, where the fibres no longer proceed from it.

ϵ The tendon, in which it ends; having a small slit at ζ in its descent over the back of the hand.

For the manner in which it is retained by the outer armillary ligament, see Tab. V. 16 in the right hand, and in Tab. I. e in the left arm; and in Tab. IX. ζ in the left hand.

The *systematic connexion* appears in Tab. V. a &c. in the cubit.

Also in Tab. I. r s in the left arm. And in Tab. VII. 5 in the left hand. Also in Tab. IX. v w in the left arm and hand; and in the right hand.

η . θ . ι . κ The extensor tendons, conjoined on the backs of the fingers with the aponeuroses and tendons of the musculi interossei, lumbricales, &c. of which η , belonging to the little finger, is formed by the tendon ϵ of the proper extensor of the little finger, conjoined with the portions q s u from the common extensor. θ that of the ring-finger, and ι that of the middle finger, are from the common extensor. κ that of the index is form'd by the tendon of the indicator V, conjoined with the tendon g from the common extensor.

λ . λ . λ . λ The ends of those tendons, inserted each of them at μ into the transverse oblong protuberance, in the outer part of the upper head of each bone of the second phalanx or order.

ν . ξ The conjunction of the tendon of the index with the tendon of the first

lumbricalis ν : and with the tendon ξ of the posterior interosseus of the index.

$\circ$. π The conjunction of the tendon of the middle finger with the tendon $\circ$, that is common to the anterior interosseus of the middle finger and 2d lumbricalis: and with the tendon of the posterior interosseus of the middle finger.

ϵ . σ The conjunction of the tendon of the ring-finger with the tendon ϵ , that is common to the anterior interosseus and 3d lumbricalis of the ring-finger.

τ . υ The conjunction of the tendon of the little finger with the tendon τ , that is common to the anterior interosseus and fourth lumbricalis of the little finger: and with the tendon υ that is common to the abductor and small flexor of the little finger.

ϕ The tendon of the first lumbricalis here cut off: which tendon conjoins itself with the tendon of the index ν , and being increased by a portion received from thence, runs to the third bone χ . Add here q r s t Fig. 3.

ψ The tendon of the posterior interosseus of the index, here cut off; which tendon conjoins itself with the tendon ξ of the index, and being increased by a portion received from thence, it runs to the third bone ω . See t &c. Fig. 6.

A The common end, in which the tendons χ . ω conjoin themselves, inserted at B into the middle protuberance in the outer part of the upper head of the third bone.

C The tendon common to the anterior interosseus and second lumbricalis of the middle finger, here cut off; which tendon conjoins itself at $\circ$ with the tendon of the middle finger, and being increased by a portion received from thence, it runs to the third bone D. Add here v &c. Fig. 9.

E The posterior interosseus of the middle finger, here cut off; which tendon conjoins itself with the tendon π of the middle finger, and being increased by a portion received from thence, it runs to the third bone F. Add here m &c. Fig. 9.

G The common end, in which the tendons D and F conjoin themselves, inserted at H into the middle protuberance in the outer part of the upper head of the third bone.

I The tendon common to the anterior interosseus and third lumbricalis of the ring-finger, here cut off; which tendon conjoins itself with the tendon ϵ of the ring-finger, and being increased by a portion received from thence, it runs to the third bone K. Add here k &c. Fig. 6.

L The tendon of the posterior interosseus of the ring-finger, here cut off; which tendon conjoins itself with the tendon σ of the ring-finger, and being increased by a portion received from thence, it runs to the third bone M. Add here a &c. Fig. 9.

N The common end, in which the tendons K M conjoin themselves, inserted at O into the middle protuberance in the outer part of the upper head of the third bone.

P The tendon common to the anterior interosseus and fourth lumbricalis of the little finger, here cut off; which tendon conjoins itself with the tendon τ of the little finger, and being increased by a portion received from thence, it runs to the third bone Q. Add here a &c. Fig. 6.

R The tendon common to the abductor and short flexor of the little finger, here cut off; which tendon conjoins itself with the tendon υ of the little finger, and being increased by a portion received from thence, it runs to the third bone S. See Fig. 10. and 11.

T The common end, in which the tendons Q S conjoin themselves, inserted at U into the middle protuberance in the outer part of the upper head of the third bone.

The *systematic connexion* appears in Tab. V. γ ζ δ ϵ η θ ι κ . χ ν ξ σ τ υ . ϕ ψ ω Γ Δ Π Σ Φ . ν z 2, 3, 4, 7, 8, 9, 10 in the right hand. Also in Tab. VI. α ϵ η θ ι λ μ ν . ξ . β ϵ σ ς ς υ ϕ χ ψ . γ ϵ c f g l m n o . δ ϵ r s t v w x y in the right hand. Likewise in Tab. VII. b f g h i k n o p q . c f u v w z α β γ . d f η θ ι ν ξ σ π . e f ς ς τ ϕ χ ψ ω in the right hand.

See also Tab. I. K L I M N O. P R. P. Q in the left hand. And in Tab. II. 8, 9, 11, 12, 13, 14. 6, 15. 6, 3 in the left hand. In Tab. III. m n r s t u. v y x. w. x in the left hand. Then in Tab. V. ψ ω Γ . Δ . Δ in the left hand. Also in Tab. VI. λ μ ν . ξ . ξ in the left hand. Then in Tab. VII. 5, 6, 7, 8. 9. 10 in the left hand. Also in Tab. VIII. q r. p in the left hand. Then in Tab. IX. ς ς τ υ ϕ χ . ψ . ω in the left hand, and in the right hand.

Concerning the aponeuroses, which join the extensor-tendons from the interossei, lumbricales, &c. see those muscles.

V The tendon of the indicator cut off. See Fig. 12. d.

FIGURE II.

The profundus, in its outer part.

a a Its origination from the back part of the ulna, beginning below the root of the olecranon or elbow.

Add here Fig. 3.

The *systematic connexion* appears in Tab. VII. R S S in the right cubit. Then in Tab. VI. i k k in the right arm; where it is partly covered by the ulnaris internus l. Then in Tab. V. K in the right cubit; where it is also in part covered by the ulnaris internus R, and is likewise hid behind the ulnaris externus W.

FIGURE III.

The profundus, in its inner part, with the lumbricales.

a--p The *profundus flexor* of the fingers.

T W E N T I E T H M U S C U L A R T A B L E .

b b b Its origin from the ulna, below the unequal surface into which the brachialis internus is fixed. Below which also its origin occupies more than half the upper part of the inner side of the ulna; arising also from the adjacent part of the ligament that is placed betwixt the radius and ulna. And its origination is here figured separated from its cohesion with the sublimis and ulnaris internus.

c Part of the tendinous beginning.

d. e. f Three tendons arising from the flesh. The first of which d goes into the tendon g h of the index. The second e ends in the tendon i k of the middle finger. The third f divides into two, one of which l m goes to the ring finger, the other n o to the little finger. As those tendons run along the palm and fingers, they are in a manner split longitudinally, and appear as if formed of two conjoined together h. k. m. o: at last they are inserted at p. p. p. p into rough surfaces, that are in the inner sides of the bones of the third phalanx or order, at the root of the upper head of each of them.

g. i. l. n The passage of the tendons thro' the inner carpal sinus, and under the inner carpal ligament; for which see Tab. III. N in the right hand.

The vagina or sheaths by which these tendons, and those of the sublimis, are covered as they pass along the joints of the fingers with the metacarpus, see in Tab. I. 4 4 4 &c. in the right hand. Also the ligamentary sheath, by which these and the tendons of the sublimis are tied down at the joints of the bones of the first phalanx, may be seen at 3, &c. in the right hand of the same Table; in which also may be seen those at 5, &c. in the same hand, that cover the tendons as they pass over the bones of the second phalanx.

Add here Fig. 2.

The systematic connexion appears in Tab. III. C C &c. in the cubit; where part of it lies under the long flexor of the thumb $\Pi \Phi$, and the tendons K L lie partly under the abductor of the fourth metacarpal bone of the hand U, and all of them H. I. K. L under the lumbricales c. g. k. n. Then in Tab. II. $\chi \chi R i i x$, &c. in the cubit and right hand (χ in the left cubit, and hand for the tendons); where it lies under the sublimis C &c. in the cubit, and the tendons of the sublimis L. I. N. P; the tendon belonging to the little finger, also lies under the abductor of the fourth metacarpal bone χ in the hand, and the small flexor of the little finger τ . Then in Tab. I. σ in the arm, and y z, &c. in the right hand, (V, &c. in the left hand); where the rest of it lies under the sublimis $\zeta \zeta$, &c. in the arm, and the pronator teres Φ ; its tendons lie under the aponeurosis of the palmaris longus γ , with the tendons of the sublimis x, &c. in the hand.

Then again in Tab. VII. R--W in the left cubit and hand. Also in Tab. VI. i the left arm, and o. o in the hand. Also in Tab. V. K in the left cubit, and $\Xi \Pi \Sigma$, &c. in the hand. And laterally in Tab. IX. in the fingers of the left hand.

q--t The first lumbricalis; r r its origination, the thicker portion of those two parts into which the tendon of the profundus belonging to the index, is in a manner split longitudinally. And it arises from that side of the tendon, that is over-against the aponeurosis of the palmaris longus.

s The tendon, that joins the common tendon of the extensor of the index, and then ends in the third bone of the index.

t The aponeurosis, that it joins with the aponeurosis of the abductor indicis, and together with that joins the common tendon of the extensor indicis.

Add here Fig. 1. Φ &c. and Fig. 6. β .

u--y The second lumbricalis; its most considerable part w arising from the thicker portion of those two into which the tendon of the profundus belonging to the middle finger, is in a manner split longitudinally; and from that side of the tendon that is opposed to the aponeurosis of the palmaris longus; then again by a less considerable and slenderer portion w, it arises from the tendon belonging to the index; and principally from that part of the said tendon, which is next the bottom of the palm.

x The tendon of it, that is afterwards conjoined with the tendon of the anterior interosseus of the middle finger, and with that forms the common tendon y conjoining itself with the tendon of the extensor communis, and ending in the third bone of the middle finger.

Add here Fig. 8. e, and Fig. 1. C.

z-- δ The third lumbricalis; arising like the second with its most considerable part $\alpha \alpha$ from the thicker of those portions, in which the tendon of the profundus belonging to the ring-finger, is in a manner split longitudinally; and its less considerable part β , from the tendon belonging to the middle finger, but from the slenderer portion thereof.

γ Its tendon, which being conjoined with the tendon of the anterior interosseus of the ring-finger, therewith forms the common tendon δ , conjoining itself with the tendon of the extensor communis, and belonging to the third bone of the ring-finger.

Add here Fig. 7. l, and Fig. 1. I.

ϵ --i The fourth lumbricalis; arising like the second with its more considerable part $\zeta \zeta$ from the thicker of those portions, into which the tendon of the profundus belonging to the little finger, is in a manner split longitudinally; and its less considerable part η arises from the slenderer portion of the tendon belonging to the ring-finger.

θ Its tendon, which being afterwards conjoined with the tendon of the anterior interosseus of the little finger, forms therewith the common tendon ι , that joins the tendon of the extensor of the little finger, and ends in the third bone of the said finger.

Add here Fig. 7. q, and Fig. 1. P.

The systematic connexion appears in Tab. III. c f e. g w. k s. n p in the right hand; where the fourth in part lies under the abductor of the fourth metacarpal bone of the hand U: but at its origin it lies hid behind the inner annular ligament of the wrist N. Then in Tab. II. $\gamma \epsilon. \zeta \nu. \eta \pi. \theta \varsigma$ in the right hand; where it is partly covered by the tendons of the sublimis P. N. I. L; the first being hid by the second short abductor of the thumb u, the fourth by the

short flexor of the little finger τ : and they are also hid behind the inner annular ligament of the wrist l. Then in Tab. I. $\Omega w. l u. k s. i q$ in the right hand; where the greatest part of it is covered by the aponeurosis of the palmaris longus γ ; and the first is also covered by the second short abductor of the thumb A. Add here Tab. IV. $\alpha \beta. \eta \theta. \xi o$ in the right hand.

Moreover in Tab. III. o p q in the left hand. In Tab. II. $i r. r o$ in the left hand. In Tab. I. I H in the left hand. In Tab. VII. ϕr in the right hand. In Tab. VI. v r in the right hand. In Tab. V. $\gamma. 6$ in the right hand. In Tab. VII. $r. 2. 3. 4$ in the left hand. In Tab. VI. $\beta. \gamma. \delta. \epsilon$ in the left hand. In Tab. V. o in the left hand. In Tab. IX. $\varsigma \tau \sigma$ in the left hand.

F I G U R E I V .

The sublimis.

a The tendinous beginning, arising at b from the inner part of the greater condyle of the humerus. But it is separated from the common tendinous head, by which it arises with the other muscles from that condyle, in the manner we described in speaking of the radialis internus at a Fig. 9. Tab. XIX.

c The portion arising with a small tendon c from the fore part of the eminence of the ulna, into which the brachialis internus is inserted, near the end of the said brachialis.

e The broad and thin head from the radius.

f The tendinous part of the origin from the radius.

g g The origin of this head from the radius, from the inner side nearly of its middle, beginning the near end of the supinator brevis and pronator teres; and from thence also continuing to arise at g h.

i The portion belonging to the index. k the tendon in which it ends.

l The portion belonging to the middle finger. m the tendon in which it ends.

n The portion belonging to the ring-finger. o the tendon in which it ends.

p The portion belonging to the little finger. q the tendon in which it ends.

k m o q The passage of the tendons thro' the inner concave part of the wrist, under the inner ligament of the wrist; for which see l in the right hand of Tab. II.

r The tendon split in a manner longitudinally; which is also in the rest.

s. t The two horns, into which the tendon splits itself; inserted at u. v into the inner part of the edge in the middle of the bone of the second phalanx; the one into the anterior, the other into the posterior edge. The rest are inserted after the same manner with this.

w The thin portion, by which those horns cohere together under the tendon of the profundus. The same also takes place in the other fingers as in this.

The ligamentary sheaths by which these, with the tendons of the profundus are tied down as they pass over the bones of the first phalanx, may be seen in Tab. I. 3. &c. in the right hand. As also the sheaths that cover them at the joints of the fingers with the metacarpus, there marked 4. 4 4. &c. with those which their extreme horns pass under, at 5. &c.

Add here Fig. 5.

The systematic connexion appears in Tab. II. C--Q in the cubit; where part of it is covered by the pronator teres Ψ ; the tendons I and L in the hand lie partly under the small flexor of the little finger τ ; the tendon P, under the second abductor of the thumb u: and all of them at their extremities under the tendons of the profundus $\iota. \iota. \iota. \iota$. Then in Tab. I. ζ -- μ in the arm; where it in part lies under the palmaris longus $\alpha \beta$, partly under the radialis internus $\Psi \Omega$, in part under the supinator longus $\Pi \Sigma$, and pronator teres Φ : also in the right hand its tendons appear at x 2. 2. &c. where a great part of them are covered by the aponeurosis of the palmaris longus γ , and at their extremities they lie partly under the tendons of the profundus y. &c.

Moreover in Tab. VI. s-- α in the arm; where in the cubit it in part lies behind the ulnaris internus l, and the profundus i. And in Tab. V. M--Q in the cubit, placed also under the same muscles; and moreover the tendons $\Xi \Pi$ &c. appear in the left hand. Laterally in Tab. IX. e in the left arm, and the tendons in the hand: and in the right arm o. Also in Tab. II. the tendons appear in the fingers of the left hand. Also in Tab. I. S &c. in the left hand.

F I G U R E V .

The sublimis.

a The ligament, that goes from the lower part of the posterior condyle of the humerus, to the back part of the upper head of the ulna, near the bottom of its lunar sinus.

b c c Part of the sublimis cut off, where it arises from the condyle b, and c c that from the ligament a, and from the upper and back part of the rough edge or ridge of the ulna, into which the brachialis internus is inserted.

Add here Fig. 4.

F I G U R E V I .

The inner interossei of the hand, view'd in their outer surface.

a The interosseus of the little finger, arising at b b from that side of the metacarpal bone of the said finger, that lies next the metacarpal bone of the ring-finger, and particularly from more than its upper half, just below the root of its upper head; except that part of its breadth that is near the back of the hand, and from whence the smaller head of the posterior interosseus of the ring-finger arises at a Fig. 9.

c Its tendon, which having received a part from the inner side of the tendon of the fourth lumbricalis, conjoins itself with the tendon of the proper extensor of the little finger, and being increased by a portion received from thence, runs to the third bone of the little finger e.

f g The aponeurosis, that joins the tendon of the extensor; and is produced in its lower part f from the tendon c; in its upper part g coming from the capsular ligament of the joint of this finger with its metacarpal bone.

Add here Fig. 1. P &c. and Fig. 7. n &c.

The

T W E N T I E T H M U S C U L A R T A B L E.

The *systematic connexion* appears in Tab. VII. m n o p r in the right hand; where it is partly covered by the posterior interosseus of the ring-finger s. Then in Tab. VI. λ in the right hand, where almost the whole of it lies behind the posterior annularis π ε. The like appears in Tab. V. η ζ in the right hand.

h The tendon of the proper extensor of the little finger. i the tendon common to the abductor and small flexor of the little finger. See Fig. 1. η R &c.

k The *anterior interosseus of the ring-finger*, arising at l l from that side of the metacarpal bone of the said finger, that lies next the metacarpal bone of the middle finger, and particularly from more than its upper half, below the root of its upper head; except that part of its breadth which is next the back of the hand, and from whence the smaller head of the posterior interosseus of the middle finger arises, m Fig. 9.

m Its tendon, which having received on its inner side the tendon of the third lumbricalis, conjoins itself with the tendon of the common extensor belonging to this finger, and being increased by a portion received from thence, runs to the third bone o of the said finger.

p q The aponeurosis, that joins the tendon of the extensor; produced in its lower part p from the tendon m; and springing in its upper part from the capsule of the joint of this finger with its metacarpal bone.

Add here Fig. 1. I &c. and Fig. 7. h &c.

The *systematic connexion* appears in Tab. VII. y z α β δ in the right hand; where it is partly covered by the posterior interosseus of the middle finger ε. Then in Tab. VI. υ in the right hand; where almost the whole lies under the posterior interosseus of the middle finger a b. The like appears in Tab. V. ε π in the right hand.

r The tendon of the common extensor belonging to this finger. s the tendon of the posterior interosseus of the ring-finger. See Fig. 1. θ. L. &c.

t The *posterior interosseus of the index*, arising at u u from that side of the metacarpal bone of the index, that lies next the metacarpal bone of the middle finger; and particularly from more than half its length, just below the root of the upper head of that bone; except the margin of that side which is next the back of the hand, from whence arises the smaller head of the anterior interosseus of the middle finger, x Fig. 9.

v Its tendon, that conjoins itself with the tendon of the extensor of the index, and being increased by a portion received from thence, runs to the third bone x of the index.

y z The aponeurosis, that joins the tendon of the extensor indicis; produced in its lower part y by the tendon v; and coming in its upper part from the capsule of the joint of this finger with its metacarpal bone.

Add here Fig. 1. ψ &c. and Fig. 7. e &c.

The *systematic connexion* appears in Tab. VII. σ ς ς τ υ in the right hand; where it is partly covered by the anterior interosseus of the middle finger λ. Then in Tab. VI. q r in the right hand; where the rest of it is under the anterior interosseus of the middle finger i k. The like also appears in Tab. V. ι. 2. φ in the right hand.

α The tendon of the extensor indicis. β the tendon of the first lumbricalis. See Fig. 1. h. φ. &c.

γ The *anterior interosseus of the index*, arising at δ δ from the anterior side of the metacarpal bone of the index; and particularly from more than its upper half, from the root of the upper head of the said metacarpal bone.

ε The end of its tendon, inserted at ζ into the fore part of the upper head of the first bone of the index.

Add here Fig. 7. a &c.

The *systematic connexion* appears in Tab. VII. 2. 3 in the right hand. Then in Tab. VI. 2 in the right hand; where it is partly covered by the abductor indicis 3 z. Likewise in Tab. V. ι ι. in the right hand.

Moreover it appears in Tab. III. e f in the left hand. Then in Tab. II. Φ in the left hand. And in Tab. I. w in the left hand; laterally in Tab. IX. o in the left hand.

F I G U R E V I I.

The internal interossei of the hand, viewed on their inner side.

a The *anterior interosseus of the index*, arising at b b b from the fore side of the metacarpal bone of the index; and particularly from more than the upper half of its length, just below the root of its upper head.

c The tendinous end, inserted at d into the fore part of the upper head of the first bone of the index.

Add here Fig. 6. γ &c.

The *systematic connexion* appears in Tab. IV. v w in the right hand; where the greater part of it is covered by the adductor of the thumb s, and the short flexor of it l. Then in Tab. III. z in the right hand; covered also by the abductor of the thumb b, and by the short flexor Z, also by the first lumbricalis c. Then in Tab. II. z in the right hand, where it likewise lies under the abductor of the thumb y, and the first lumbricalis γ, with the abductor indicis α β: and just in that manner it appears in Tab. I. a in the right hand.

e The *posterior interosseus of the index*, arising at f f from that side of the metacarpal bone of the index, that lies next the metacarpal bone of the middle finger; and particularly from more than half of its length, just below the root of its upper head.

g Its tendon, which being increased by a portion received from the extensor indicis, runs to the third bone of the index.

The said tendon also adheres by thin fibres to the capsule of the joint of this finger with its metacarpal bone, as it passes over the same towards the palm of the hand. In the same manner likewise are disposed the anterior interosseus of the ring-finger, and the anterior interosseus of the little finger.

Add here Fig. 6. t &c.

The *systematic connexion* appears in Tab. IV. x y in the right hand, where the greater part of it is covered by the adductor of the thumb s, and the short flexor l. Then in Tab. III. x y in the right hand; covered also by the ad-

ductor of the thumb b, and that tendon of the profundus which belongs to the index H. Then in Tab. II. λ in the right hand, covered also by the tendon of the sublimis P that belongs to the index. Then in Tab. I. v in the right hand, covered by the aponeurosis of the palmaris longus γ ε.

Moreover in Tab. VIII. i in the left hand.

h The *anterior interosseus of the ring-finger*, arising at i i from that side of the metacarpal bone of that finger, which lies next the metacarpal bone of the middle finger; and particularly from more than half its length, just below the root of its upper head.

k Its tendon, to which the tendon of the third lumbricalis (z γ δ Fig. 3.) l joins itself: and the common tendon formed by them m, being increased by a portion received from the tendon of the common extensor of this finger, runs to its third bone.

Add here Fig. 6. k &c.

The *systematic connexion* appears in Tab. IV. ε ζ in the right hand, partly covered by the third lumbricalis η. Then in Tab. III. r in the right hand; where the rest of it is covered by the third lumbricalis k, and the tendon of the profundus belonging to the middle finger I. Then in Tab. II. o in the right hand; where also it is covered by the third lumbricalis η, and the tendon of the sublimis N belonging to the index. Then in Tab. I. n in the right hand, covered by the third lumbricalis k, and the aponeurosis of the palmaris longus γ ε.

Moreover in Tab. VIII. it appears at m in the left hand.

n The *interosseus of the little finger*, arising at o o from that side of the metacarpal bone of the said finger, that lies next the metacarpal bone of the ring-finger; and particularly from more than half its length, just below the root of its upper head.

p The tendon of this interosseus, which joins the tendon of the 4th lumbricalis (ε θ i Fig. 3.) cut off at q: and the common tendon r, which is formed of it, being increased by a portion received from the extensor proper to the little finger, runs to the third bone of the said finger.

Add here Fig. 6. a &c.

The *systematic connexion* appears in Tab. IV. μ ν in the right hand; where it is partly covered by the fourth lumbricalis ξ. Then in Tab. III. above p in the right hand, where the rest of it is covered by the fourth lumbricalis n, and tendon of the profundus L, belonging to the adductor of the fourth metacarpal bone U. Then in like manner in Tab. II. σ in the right hand; and in Tab. I. o in the right hand.

Moreover in Tab. VIII. at o it appears in the left hand.

F I G U R E V I I I.

The bicipital or external interossei of the hand viewed on their inner side.

a--f The *anterior interosseus of the middle finger*.

a The smaller head which arises from the metacarpal bone of the index.

b The thicker head, arising at c c from a little more than the upper half of that side of the metacarpal bone of the middle finger that lies next the metacarpal bone of the index.

d The tendon of it that joins the tendon of the second lumbricalis (u x y Fig. 3.) cut off here at e: and the common tendon formed thence f, being increased by a portion received from the tendon of the common extensor, belonging to this finger, runs to the third bone of the said finger.

The extremity also that lies under the former, usually inserts itself into the eminence that is just beneath the first head of the first bone. After the same manner are disposed the posterior external interosseus of the middle finger, and of the ring finger.

Add here Fig. 9. v x, &c.

The *systematic connexion* appears in Tab. IV. z in the right hand; where the greater part lies under the posterior interosseus of the index x, the adductor of the thumb s, and the short flexor l, with the second lumbricalis α. Then in Tab. III. v in the right hand, placed likewise under the posterior interosseus of the index x, the adductor of the thumb b, and the second lumbricalis g. Then in Tab. II. μ in the right hand; placed under the posterior interosseus indicis λ, the second lumbricalis ζ, and the tendon of the sublimis P belonging to the index. Then in Tab. I. m in the right hand; placed under the posterior interosseus of the index v, the second lumbricalis l, and the aponeurosis of the palmaris longus γ ε.

Moreover in Tab. VIII. near k in the left hand.

g--k The *posterior interosseus of the middle finger*.

g The smaller head, which arises from the metacarpal bone of the ring-finger.

h The thicker head, arising at i i from a little more than the upper half of that side of the metacarpal bone of the middle finger, that lies next the metacarpal bone of the ring-finger.

k The tendon of it, which being increased by a portion received from the tendon of the common extensor belonging to the middle finger, runs to the third bone of the said finger.

Add here Fig. 9. m o &c.

The *systematic connexion* appears in Tab. IV. γ δ in the right hand; where a great part is covered by the anterior interosseus of the ring-finger ε. Then in Tab. III. t u in the right hand; where it is covered by the anterior interosseus of the ring-finger r, and the tendon of the profundus belonging to the middle finger I. Then in Tab. II. ξ in the right hand; covered by the anterior interosseus of the ring-finger o, and tendon of the sublimis belonging to the middle finger N. Then in Tab. I. t in the right hand; covered by the anterior interosseus of the ring-finger n, and the aponeurosis of the palmaris longus ε.

Likewise in Tab. VIII. l l in the left hand.

l--o The *posterior interosseus of the ring-finger*.

l The thinner head, that arises from the metacarpal bone of the little finger.

[M m]

T W E N T I E T H M U S C U L A R T A B L E.

m The thicker head, arising from a little more than the upper half of that side of the metacarpal bone of the ring-finger, that lies next the metacarpal bone of the little finger.

o The tendon of it, which being increased by a portion received from the tendon of the common extensor belonging to the ring-finger, runs to the third bone of the said finger.

Add here Fig. 9. a c &c.

The systematic connexion appears in Tab. IV. ϵx in the right hand; where a great part of it is covered by the interosseus of the little finger μ . Then in Tab. III. q in the right hand; covered by the fourth lumbricalis n, and tendon of the profundus K. Then in Tab. II. g in the right hand; in like manner covered by the fourth lumbricalis θ , and tendon of the profundus belonging to the ring-finger. Then in Tab. I. r in the right hand; covered also by the fourth lumbricalis i.

Also in Tab. VIII. n n in the left hand.

F I G U R E IX.

The bicipital or external interossei of the hand, view'd in their outer side.

a--h The posterior interossei of the ring-finger.

a The thinner head, arising at b b from the outer edge of that side of the metacarpal bone of the little finger, that lies next the metacarpal bone of the ring-finger, from the root of its upper head almost to its lower head.

c The thicker head, arising at d d from a little more than the upper half of that side of the metacarpal bone belonging to the ring-finger, which lies next the metacarpal bone of the little finger.

e Its tendon, that joins itself with the tendon f of the common extensor belonging to the ring-finger, and being increased by a portion received from thence, runs to the third bone g of the said finger.

h i The aponeurosis, that joins to the tendon of the common extensor belonging to the ring-finger; produced in its lower part h from the tendon e; in its upper part i springing from the capsule of the joint of this finger with its metacarpal bone.

Add here Fig. 1. L &c. and Fig. 8. l m &c.

The systematic connexion appears in Tab. VI. $\pi \rho \sigma \tau$ in the right hand. Then in Tab. V. $\mu \mu \xi \lambda$ in the right hand; where the rest of it lies under the tendons of the common extensor of the fingers f f, &c. and under the tendon of the extensor proper to the little finger c.

Moreover in Tab. VII. s t &c. in the right hand. Also in Tab. III. i in the left hand: and in Tab. II. 2 in the left hand.

k The tendon, belonging to the ring-finger from the common extensor. l The tendon common to the anterior interossei of the ring-finger and third lumbricalis. See Fig. 1. θ I. &c.

m--t The posterior interossei of the middle finger.

m The thinner head, arising from the outer edge of that side of the metacarpal bone of the ring-finger, that lies next the metacarpal bone of the middle finger; from the root of its upper head almost to the lower head of the said bone.

o The thicker head arising at p p from a little more than the upper half of that side of the metacarpal bone of the middle finger, that lies next the metacarpal bone of the ring-finger.

q The tendon of it that joins with the tendon r of the common extensor r belonging to the middle finger, and being increased by a portion received from thence, runs to the third bone s of the middle finger.

t u The aponeurosis that joins the tendon of the common extensor belonging to the middle finger, produced in its lower part t from the tendon q; coming its upper part at u from the capsule of the joint of this finger, with its metacarpal bone.

Add here Fig. 1. E, &c. and Fig. 8. g h, &c.

The systematic connexion appears in Tab. VI. a b c f g h in the right hand. Then in Tab. V. $\chi \psi \omega \Gamma \phi$ in the right hand, where the rest lies under the tendons of the common extensor of the fingers f n o p.

Likewise in Tab. VII. $\epsilon \zeta$ &c. in the right hand. Also in Tab. III. h in the left hand. And in Tab. II. 1 in the left hand.

v-- ϵ The anterior interossei of the middle finger.

v The thicker head, arising at w w from a little more than the upper half of that side of the metacarpal bone of the middle finger, that lies next the metacarpal bone of the index.

x The thinner head, arising at y y from the outer edge of that side of the metacarpal bone of the index, that lies next the metacarpal bone of the middle finger; from the root of its upper head almost to its lower head.

z Its tendon, which being received by the inner part of the tendon of the second lumbricalis, joins itself at α with the tendon of the common extensor belonging to the middle finger, and being increased by a portion received from thence, it runs to the third bone β of the middle finger.

γ The common end, in which the tendons s, β are conjoined, inserted at δ into the third bone.

$\epsilon \zeta$ The aponeurosis, that joins the tendon of the common extensor belonging to the middle finger; produced in its lower part ϵ from the tendon z, in its upper part ζ from the capsule of the joint of this finger with its metacarpal bone.

Add here Fig. 1. C &c. and Fig. 8. a b &c.

The systematic connexion appears in Tab. VI. i i k l m n p in the right hand; where it lies partly under the tendon of the indicator muscle. Then in Tab. V. $\Theta \Theta \Delta \Xi \Pi \Sigma \Delta$ in the right hand; where in part also it lies under the tendon t of the indicator, and likewise under the tendon r of the common extensor, and its aponeurosis s.

Moreover in Tab. VII. at $\lambda \mu$ &c. in the right hand. And in Tab. III. g in the left hand: and Tab. II. Ω in the left hand.

n The tendon of the common extensor belonging to the middle finger. See Fig. 1. $\epsilon \lambda$.

M U S C L E S O F T H E L I T T L E F I N G E R.

Add here the extensor proper to the little finger, Fig. 1. α &c.

F I G U R E X.

The small flexor of the little finger.

a Its origin from the outer part of the carpal ligament, and at b from the middle of the extremity of the crooked process of the cuneiform bone of the wrist.

c The tendon, in which it ends; and by which, joining the tendon of the abductor, it forms the common tendon d: and that conjoins itself with the tendon of the extensor proper to the little finger; and being increased by a portion received from thence, it runs to the third bone of this finger. See Fig. 1. R U S T U.

Add here Fig. 1. R &c. and Fig. 6. i.

The systematic connexion appears in Tab. II. $\tau \upsilon \phi$ in the right hand. Then in Tab. I. f h p in the right hand; where it is partly covered by the palmaris brevis g g, and partly by the aponeurosis of the palmaris longus γ .

Moreover in Tab. VI. ζ in the left hand. Also in Tab. V. χ in the left hand. And in Tab. IX. i in the right hand.

F I G U R E XI.

The abductor of the little finger.

a Its origin from the inner and back part of the round protuberance in the pisiform bone; and from the adjacent inner ligament of the wrist at b.

c One of the tendons, in which it ends; inserted at d into the back part of the upper head of the first bone of the little finger, just beneath its upper edge.

e The other tendon, that joins itself to the tendon of the small flexor, here cut off at f: and the common tendon thence produced, immediately inserts itself beneath the said tendinous end d, into the same head of the bone where it is unequally protuberant: then at g (which is d Fig. 10.) it joins the tendon of the extensor proper to the little finger.

The aponeurosis, which this tendon gives to the extensor tendon of the little finger, see in Tab. V. α in the right hand: and in Tab. VI. x in the right hand: and Tab. VII. l in the right hand.

Add here Fig. 1. R &c. and Fig. 6. i.

The systematic connexion appears in Tab. II. $\psi \omega$ in the right hand; partly covered by the small flexor $\tau \upsilon \phi$. Then in Tab. I. c in the right hand; in part also covered by the small flexor h p, and in part by the palmaris brevis g g.

Moreover in Tab. VI. θ in the left hand: and ζ in the right hand. Also in Tab. V. τ in the left hand: and β in the right. And in Tab. IX. k in the right hand.

M U S C L E S O F T H E I N D E X O R F O R E - F I N G E R.

F I G U R E XII.

The indicator.

a The tendinous beginning, arising at b b near the back part of the extensor major of the thumb, from the outer spine of the ulna, beginning near the middle of that bone; afterwards, below the origin of the said extensor major of the thumb from the ulna, it arises from the interosseous ligament of the cubit near the ulna.

c The tendon in which it ends, and which runs together with the common extensor of the fingers under the outer armillary ligament of the wrist (16 Tab. V. in the right hand) thro' the common sinus.

d The conjunction of this tendon with the tendon of the common extensor of the fingers belonging to the index e, here cut off; and with that it forms the common tendon f.

Add here Fig. 1. V h $\kappa \lambda \mu \nu \xi$, &c.

The systematic connexion appears in Tab. VI. f g h in the arm. Then in Tab. V. t in the right hand, where part of it is covered by the tendon r of the common extensor of the fingers: and in the cubit it lies under the said common extensor d, &c. and under the extensor proper to the little finger a, with the ulnaris externus w.

Moreover in Tab. II. $\Psi \Psi$ in the left hand: and in Tab. I. it appears at u u in the left hand. Also in Tab. IX. u in the left hand.

g The tendon of the posterior interossei of the index. See ψ Fig. 1.

h The tendon of the first lumbricalis. See ϕ Fig. 1.

F I G U R E XIII.

The abductor indicis, externally.

a The tendinous beginning, by which it arises at b from the back of the larger multangular bone.

c Its origin from the upper part of the edge of the metacarpal bone of the thumb, that lies next to the index.

d The portion that arises from the inner and upper part of the metacarpal bone of the index.

e The aponeurosis which it conjoins with the tendon of the first lumbricalis, and with the common tendon of the extensors of the index, h Fig. 1: from whence it is here cut off at f.

Add here Fig. XIV.

The systematic connexion appears in Tab. VI. 3 z in the right hand, where it lies partly under the tendon c of the extensor major of the thumb. And in Tab. V. 12. 5 in the right hand; covered in like manner by the tendon 13 of the extensor major of the thumb.

More.

T W E N T I E T H M U S C U L A R T A B L E.

Moreover in Tab. II. it appears at Σ in the left hand: and in Tab. I. at x in the left hand: also in Tab. IX. at π in the left hand.

F I G U R E X I V.

The abductor of the index, in its inner side.

a Part of its tendinous beginning.
b The tendinous end, by which it is inserted at c into the upper head of the first bone of the index.

Add here Fig. 13.

The *systematic connexion* appears in Tab. II. $\alpha\beta$ in the right hand; where the greater part of it is covered by the adductor of the thumb γ , and the short flexor x , with the first lumbricalis γ . And in Tab. I. b in the right hand; covered in the same manner by the adductor of the thumb Ψ , and the short flexor Φ , with the first lumbricalis Ωw .

M U S C L E S O F T H E T H U M B.

F I G U R E X V.

The opponent of the thumb.

a Its origin from the anterior of those eminences in the larger multangular bone, that help to form the sinus, thro' which the tendon of the radialis inter-nus passes to the hand; and at $b b b$ from the carpal ligament, with a tendinous beginning.

c The tendinous portion of its extremity.

d Its insertion at the inner side of the metacarpal bone of the thumb, at its lower head. It is also inserted along the whole anterior edge of that side of the bone.

e The impression formed by the short abductor of the thumb, and by its second short abductor.

The *systematic connexion* appears in Tab. II. $q \& c$. in the right hand; in part covered by the second short abductor of the thumb u , and the tendon f of the left extensor of the thumb. Then in Tab. I. X in the right hand; in a great measure covered by the short abductor of the thumb Y ; and a small part by the tendon d of the left extensor of the thumb.

Moreover in Tab. VI. g in the left hand. And in Tab. II. Γ in the left hand. Also in Tab. I. z in the left hand. And in Tab. IX. λ in the left hand.

F I G U R E X V I.

The abductor brevis of the thumb.

a Its origin from the inner carpal ligament.

b Its tendinous end, of which the part c is inserted into the inner and fore part of the upper head of the first bone of the thumb.

d A thin tendinous portion, that climbs on the back of the thumb, and joins with the fore part of the tendons of the extensors of the thumb, and is continued over the surface of those tendons to a like aponeurosis of the short flexor of the thumb.

e The portion, which the tendon of the upper part of the long abductor of the thumb sends to the short abductor. See Fig. 19. e : from whence it is here cut off.

The *systematic connexion* appears in Tab. I. $Y Z \Gamma$ in the right hand. And in Tab. II. k in the right hand.

Moreover in Tab. V. θx in the left hand. And in Tab. IX. ιx in the left hand; and $a b$ in the right hand.

f The tendon of the left extensor of the thumb here cut off.

g The common tendon of the extensors of the thumb.

F I G U R E X V I I.

The second short abductor of the thumb.

a Its origin, from the lower and outer part of the inner carpal ligament.

b Its tendinous end, inserted at c into the inner and fore part of the upper head of the first bone of the thumb.

The *systematic connexion* appears in Tab. II. $u \& c$. in the right hand; at its end covered by the aponeurosis of the short abductor of the thumb k . Then in Tab. I. Λ in the right hand; where it is also covered by the short abductor $Y \Gamma$, and the aponeurosis of the palmaris longus γ .

Moreover in Tab. VI. it appears at τ in the left hand. And in Tab. V. λ in the left hand. Also in Tab. IX. c in the right hand.

F I G U R E X V I I I.

The long abductor of the thumb, in its outer part.

a The tendinous beginning, arising at $b b$ from the spine of the ulna, just above the middle of that bone, from its outer part, near the lower portion of the supinator brevis.

d The part that arises at $e e$ from the outer side of the radius, near the lower part of the supinator brevis, opposite its origin from the ulna.

Also beneath it arises from the outer part of the interosseus ligament, that is seated betwixt the radius and ulna, and between the two foregoing originations of it from the radius and ulna.

f The tendinous portion of the said intermediate part.

g The tendon of its upper part.

h The tendon of its lower part, here cut off at i .

The tendons slide down thro' the anterior sinus that is in the lower head of the radius, under the ligament, 20 in the right hand of Tab. V. and in Tab. IX. η in the left hand.

Add here Fig. 19.

The *systematic connexion* appears in Tab. VI. $\Lambda--\Phi$ in the arm; where it is covered by the shorter radialis externus V , the supinator brevis Δ , the extensor

major of the thumb a , and left extensor $\Psi \Omega$. Then in Tab. V. $21--23$ in the cubit; covered by the shorter radialis externus H , the common extensor of the fingers d , the proper extensor of the little finger a , and the left extensor of the thumb $24, 25$.

Moreover in Tab. II. it appears in the left cubit at $Z a b$. And in Tab. I. $\Phi \chi \Psi \omega b b$ in the left arm. And in Tab. IX. $x y z z$ in the left arm and hand.

F I G U R E X I X.

The long abductor of the thumb, in its inner part.

a Its inner part, that lies next the supinator longus and radialis externus.

b Its upper part. c the tendon, in which it ends; of which the part d is inserted into the inner side of the larger multangular bone, near the thumb; and the portion e joins the short abductor of the thumb, here cut off, $V. e$ Fig. 16.

f Its lower part. g the tendon, in which it ends; inserted at h into the tubercle, that is in the inner and fore part of the upper head of the metacarpal bone of the thumb, above its internal edge.

The tendons slide down thro' the anterior sinus in the lower head of the radius, under the ligament to be seen at v in Tab. I. in the arm.

Add here Fig. 18.

The *systematic connexion* appears in Tab. II. $a b c d$ in the right cubit; where its end is covered by the opponent of the thumb q in the hand. Then in Tab. I. $\chi \omega \omega a b b$ in the right arm; where likewise its end lies under the opponent X , in the hand.

Moreover it appears in Tab. V. η in the left hand.

F I G U R E X X.

The short flexor of the thumb.

a Its origin, from the inner and lower part of the left multangular bone, from the os magnum vel capitatum b , and from the cuneiform bone c . It arises also from the inner eminence of the larger multangular bone. And below its origination from those bones, it likewise springs from the adjacent heads of the metacarpal bones, belonging to the index and middle finger, and often from those of the ring-finger and thumb.

d One of its tails, inserted by the tendinous end e into the upper part of that sesamoid bone f , which is placed outermost or farthest from the index, at the joint of the thumb with its metacarpal bone.

g The other tail, inserted by the tendinous end h into the sesamoid bone i , that is nearest the index; into the upper part of it, and that side which is nearest the index: and a little below that, it is inserted at k into the nearest lateral part of the upper head of the first bone of the thumb.

The aponeurosis, produced from the tail which is nearest the index, and which joins the aponeurosis investing the capsule of the joint of the thumb with its metacarpal bone, and with that adheres to the common end of the extensor tendons of the thumb, may be seen in Tab. IV. r in the left hand.

The *systematic connexion* appears in Tab. IV. $l--q$ in the right hand; where a small part is covered by the adductor of the thumb s . Then in Tab. III. $Z Z$ in the right hand; where it is covered by the adductor of the thumb b , and by the tendon A of the long flexor of the thumb, and by the first lumbricalis c ; and at its origin it lies hid behind the inner armillary ligament of the wrist N . Then in Tab. II. x in the right hand; covered by the adductor of the thumb y , by the tendon of the long flexor of the thumb V , with the first lumbricalis γ , the short abductor of the thumb u , and the opponent q . So also in Tab. I. at Φ in the right hand, it appears covered with the same muscles.

Moreover it appears in Tab. VIII. $\Psi--e$ in the left hand. Also in Tab. VII. $\Phi \Psi$ in the left hand. Tab. VI. χ in the left hand. Tab. V. ξ in the left hand. And Tab. IX. d in the right hand.

In its outer part it appears in Tab. VIII. Ψf in the right hand. In Tab. VII. $4, 5$ in the right hand. In Tab. VI. $6, 5$ in the right hand. Tab. V. between 27 and 29 in the right hand. Then in Tab. IV. $l r$ in the left hand. Tab. III. $a b$ in the left hand. Tab. II. $\Theta \Lambda$ in the left hand. Also in Tab. I. D in the left hand. And in Tab. IX. μ in the left hand.

F I G U R E X X I.

The long flexor of the thumb.

a The first origin of it from the radius; whose inner side it occupies, from near the tubercle into which the biceps of the arm is inserted, almost down to the pronator quadratus. And it also arises from the interosseus ligament that is betwixt the radius and ulna.

b The tendinous part of its origin.

c The portion that joins this muscle, arising by a slender tendon d , from the greater condyle of the humerus e , and is not often to be met with. f the tendon in which the said portion ends; joins the fleshy part of the flexor, and forms the first beginning of its tendon g .

The tendon passes thro' the inner sinus of the carpus under the inner ligament, which see in Tab. III. N in the right hand.

h The tendon passing betwixt the sesamoid bones of the thumb.

i Its course along the thumb and its metacarpal bone, where it is in a manner split longitudinally.

k Its insertion nearly into the middle of the rough eminence, that is in the posterior side of the last bone of the thumb.

The ligament, that confines it in passing along the first bone of the thumb. See in Tab. I. Σ in the right hand.

The *systematic connexion* appears in Tab. III. $\Pi--B$ in the fore-arm and hand, where a small part lies hid behind the pronator teres Λ , and the shorter radialis externus χ ; but the accessory portion at its beginning lies behind the brachialis internus νo . Then in Tab. II. $S T V W$ in the cubit, &c; where it lies behind the sublimis $C O$, the supinator longus X , and the short abductor of the thumb

[N n]

T W E N T I E T H M U S C U L A R T A B L E.

u in the right hand. Then in Tab. I. π g in the arm, and $\Xi \Xi \Pi$ in the right hand; where it lies under the sublimis ζ λ , the supinator longus Σ , the radialis internus Ω in the arm: and the short abductor of the thumb Λ in the right hand.

Moreover it appears in the left cubit and hand of Tab. VII. at X X Y. In Tab. VI. $\Gamma \Delta$ in the left hand. And in Tab. V. $\nu \nu$ in the left hand. Also in Tab. IX. f f in the left arm: and f f in the right hand.

F I G U R E XXII.

The larger extensor of the thumb.

a a Its origin from the outer part of the ulna, almost in the middle of it longitudinally. And at b it arises beneath from the ligament that is extended betwixt the radius and ulna.

c The tendinous part of its beginning.

d The tendon, in which it ends; and which runs down thro' the small sinus of the radius, that is just behind the sinus, thro' which pass the tendons of the radiales externi: and it runs under the outer armillary ligament of the wrist, which see in Tab. V. 16 in the right hand.

e The tendon of the less extensor of the thumb, here cut off, see Fig. 23. c.

f The common end, in which the tendons of the larger and less extensor of the thumb unite; inserted at g into the oblong transverse protuberance, that stands out from the upper and fore part of the last bone of the thumb.

The *systematic connexion* appears in Tab. VI. a b c d e in the arm; where it lies under the anconæus Y, and the indicator f g h. Then in Tab. V. 13. 26 in the right hand, where it lies under the common extensor of the fingers d in the cubit, under the proper extensor of the little finger a, and the ulnaris externus W.

Moreover in Tab. II. g g h in the left cubit. And in Tab. I. y A in the left hand. And in Tab. IX. $\gamma \gamma \delta$ in the left arm and hand.

h The aponeurosis, that joins itself to the tendon of the common extensors of the thumb, here cut off. Part of it encompasses the capsule of the joint of this thumb with its metacarpal bone, connected to the said capsule: part of it springs from the posterior tail of the short flexor of the thumb. See 4 and 5 in the left hand of Tab. VI.

The aponeurosis, which the common tendon receives on the other side from the short abductor of the hand, see in Fig. 16. d.

F I G U R E XXIII.

The less extensor of the thumb.

a The tendinous part of its beginning, arising at b from the outer part of the spine of the ulna, to which is connected the ligament that lies betwixt the bones of the cubit. And below that origin it arises from the foresaid ligament.

c The tendon, in which it ends; and which here passes thro' the anterior sinus that is in the lower head of the radius, and under the ligament 20 in Tab. V. in the right hand, and Tab. I. ν in the arm, and Tab. IX. η in the left hand.

d The tendon of the larger extensor of the thumb, here cut off; d Fig. 22.

e The common end, in which the tendons of the larger and less extensor of the thumb unite; inserted at f into the oblong transverse protuberance, that stands out in the upper and fore part of the last bone of the thumb.

The *systematic connexion* appears in Tab. VI. $\Psi \Omega$ d in the arm; where at its origin it lies under the extensor major of the thumb a c. Then in Tab. V. 24. 25. 26; in part covered by the common extensor of the fingers d, and the extensor proper to the little finger a.

Moreover in Tab. II. e f in the cubit. And in Tab. I. c d in the arms. And in Tab. IX. $\alpha \beta$ in the left arm and hand.

g The same aponeurosis, that is marked h, Fig. 22.

F I G U R E XXIV.

The adductor of the thumb.

a Its origin from the fore part of the upper head of the metacarpal bone of the ring-finger, near the metacarpal bone of the middle finger; and afterwards at b b from the inner side of the metacarpal bone of that middle finger.

c The tendinous end, inserted at d into that part of the upper head of the first bone of the thumb that lies next the index.

The *systematic connexion* appears in Tab. IV. s &c. in the right hand; in some measure covered by the short flexor of the thumb l, and posterior interosseus of the middle finger γ . Then in Tab. III. b b in the right hand; covered by the short flexor of the thumb Z, the 1st and 2d lumbricalis c, g, with the tendon of the profundus H and I. Then in Tab. II. y in the right hand, where as before it is covered by the short flexor of the thumb x, the first lumbricalis γ ,

the second lumbricalis ζ , and the tendons of the profundus that belong to the index and middle finger, and the tendon of the sublimis P that belongs to the index. Also in Tab. I. Ψ in the right hand, covered by the same muscles.

Moreover it appears in Tab. VIII. g h in the left hand. Tab. VII. Ω in the left hand: and in Tab. VI. ω in the left hand. Tab. V. π in the left hand. And in Tab. IX. e in the right hand.

In its fore part it appears in Tab. VIII. g g h in the right hand. Tab. VII. 6. 7 in the right hand. Tab. VI. 7. 8 in the right hand. Tab. V. 29. 30 in the right hand. Then in Tab. IV. s u in the left hand. In Tab. III. c d in the left hand. In Tab. II. $\Xi \Pi$ in the left hand. In Tab. I. F G in the left hand. And in Tab. IX. $\nu \xi$ in the left hand.

M U S C L E S O F T H E M E T A C A R P U S.

F I G U R E XXV.

The adductor of the metacarpal bone of the little finger.

a Its origin from the posterior and almost extreme part of the crooked process of the cuneiform bone of the wrist, a little below its middle: and at b from the adjacent outer part of the inner carpal ligament, below the said process.

c c In these parts it is inserted into the metacarpal bone of the little finger, near its head: and betwixt them thro' its whole length: namely into the posterior and inner part of that bone.

The *systematic connexion* appears in Tab. III. U &c. in the right hand. Then in Tab. II. $\chi \chi$ in the right hand, covered by the abductor of the little finger Ψ , and the small flexor τ . Then in Tab. I. f in the right hand, covered by the abductor of the little finger c, by the small flexor h, the palmaris brevis g g, and the aponeurosis of the palmaris longus γ .

Moreover in Tab. VII. it appears at $\Xi \Pi \Sigma$ in the left hand; and a in the right hand. Also in Tab. IX. l in the right hand.

M U S C L E S O F T H E P A L M.

F I G U R E XXVI.

The palmaris longus and brevis.

a--o The *palmaris longus*.

b The tendinous beginning, arising from the end of the inner part of the posterior condyle of the os humeri; which beginning afterwards runs thro' it at c: but belongs to the common tendinous head, by which it arises with the other muscles from this condyle; and from which it is separated in the same manner with that of the radialis internus Tab. XIX. Fig. 9. a.

d The tendon, in which it ends.

e The aponeurosis, in which the said tendon expands; and which partly arises from the inner ligament of the wrist. The said aponeurosis is first slightly distinguished into the four portions f. g. h. i, going to the fingers; which are afterwards so far divided that they only cohere by the transverse tendinous threads k k k.

l. l: l. l: l. l: l. l The bifurcated extremity, in which each portion ends upon the finger to which it belongs; and which are inserted into the transverse ligament that is at the roots of the fingers, as well into the parts m m m m that lie betwixt the two horns of each portion, as into the parts n. n. n that are immediately covered by the portions themselves betwixt those horns. And at the upper part of the said ligament, they are inserted by a small portion into the middle of the inner side of the metacarpal bones.

o The portion cut off, which it gives to the short abductor of the thumb.

The *systematic connexion* appears in Tab. I. α -- ϵ in the arm; where at its origin it lies under the pronator teres Φ . Also in Tab. V. L in the cubit, and g in the left hand. And in Tab. IX. $\nu \xi$ in the right arm.

p p The *palmaris brevis*, unequally divided into portions.

q q Its detachment from the beginning of the aponeurosis of the palmaris longus. It also goes off from the outer part of the inner carpal ligament near the thumb.

r r The extremities, which are inserted into the tendinous covering of the hand that lies next to the common integuments, and belonging to the fourth metacarpal bone.

The *systematic connexion* appears in Tab. I. g g in the right hand; where (as here) part of its origin lies under the aponeurosis of the palmaris longus γ .

Moreover in Tab. V. it appears at $\sigma \sigma$ in the left hand. And in Tab. IX. h in the right hand.





THE TWENTY-FIRST ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

MUSCLES OF THE THIGH.

Add here Tab. XXII. Fig. 1. 2. 3. 4. 5. 6. 7. 8. And the *abductor fascialis femoris*, Fig. 8. Tab. XXIII.

FIGURE I.

The gluteus magnus.

The flesh of this muscle is outwardly collected into small bundles loosely cohering together.

a a Its origin from the os ilium at the outer edge of the back part of its spine, by which that bone is extended backwards over the os sacrum. It arises with a tendinous beginning.

It also adheres so firmly to the ligamentum sacro-ischiaticum, and to the ligament that goes from the os sacrum, to the spine or crista of the os ilium; as also to the tendinous vagina that covers it outwardly, that it seems to arise from each of them. Its said origin (a a) is also continued to the tendinous origin of the latissimus dorsi, and common heads of the longissimus dorsi and sacrolumbalis. See Tab. V. $\delta \delta$ in the buttock.

b The place where it arises from the outer edge of the os sacrum.

c Its origin from the first protuberance, at the side of the opening in which the canal of the spina dorsi, including the spinal medulla, terminates.

d Its origin from the juncture of the oblique processes of the os sacrum and coccygis.

e Its origin from the side of the os coccygis.

f The tendon, in which it ends; and which is inserted into the protuberance of the thigh-bone, that is extended along its back part downwards from the root of the great trochanter; and it principally inserts itself into the upper part of this eminence, where it is generally the most rough and protuberant. It also coheres with the tendinous fascia or covering that binds together the adjacent muscles of the thigh.

g The place where it coheres to the vastus externus.

The *systematic connexion* appears in Tab. V. γ in the buttock. Also in Tab. IX. w x γ in the hip. And in Tab. I. A in the thigh.

FIGURE II.

The middle gluteus, in its back part.

a a a Its origin from the whole extent of the back of the os ilium, from near its spine.

b Its tendinous extremity, inserted obliquely at c c into the trochanter major, from the tip to its root.

d d The impression made in it by the gluteus magnus.

Add here Fig. 3.

The *systematic connexion* appears in Tab. VI. i &c. in the lower part of the trunk. Then in Tab. V. Y in the buttock, where the remaining part of it is covered by the gluteus magnus w.

FIGURE III.

The middle gluteus, in its fore part.

a Its outer part. b its inner part.

c c Its origin from the spine of the ilium.

d The tendinous portion, by which the tendinous end begins internally.

Add here Fig. 2.

The *systematic connexion* appears in Tab. II. s in the trunk; where the rest of it is covered by the gluteus minor u. Then in Tab. I. K in the thigh; where it lies partly behind the tensor or abductor fascialis femoris M.

FIGURE IV.

The gluteus minor, in its back part.

a a a The first of its origination from the back of the os ilium, from all that part of it which lies betwixt the origins of the middle gluteus and beginning of the ischium, and from the posterior edge of the upper part of the ischium itself.

b The tendinous portion, that begins outwardly from its tendinous insertion.

Add here Fig. 5.

The *systematic connexion* appears in Tab. VII. z &c. in the hip. In Tab VI. it lies under the gluteus medius i in the lower part of the trunk, and the pyriformis n.

FIGURE V.

The gluteus minor in its fore part.

a a Its origin from the os ilium.

b Its outer part. c its inner part.

d Its tendinous end that terminates in that fore part of the trochanter major that is near its outer side from the root to its tip. See Tab. III. ξ in the trunk.

Add here Fig. 4.

The *systematic connexion* appears in Tab. III. ξ -- σ in the trunk, where it lies under the iliacus internus s. Then in Tab. II. u in the trunk; placed under the iliacus internus y in the thigh, and the rectus x. In Tab. I. it lies under the abductor fascialis femoris M in the thigh.

FIGURE VI.

The pyriformis, in its back part.

a Its origin from the outer part of the posterior and lower edge of the os ilium, near the os sacrum.

b The tendon, in which it ends: for it is inserted into the inner and middle part of the mount of the trochanter major.

Add here Fig. 7.

The *systematic connexion* appears in Tab. VI. n in the lower part of the trunk; where it is partly covered by the gluteus medius i, in part by the upper of the gemini q, and in part lies behind the os sacrum. In Tab. V. it lies under the gluteus magnus γ in the buttock.

FIGURE VII.

The pyriformis, in its fore part.

a b. c. d. e f Three portions, by which it arises from the fore part of the os sacrum; being tendinous at their beginning b d f.

g The uppermost of them, arising from the fore part of the body of the second vertebra of the os sacrum, just above its second foramen.

h The middle portion, from the fore part of the process that lies betwixt the second and third foramen.

i The lower portion, from the fore part of the process that is betwixt the third and fourth foramen.

k The place where the muscle is cut off.

Add here Fig. 6.

FIGURE VIII.

The quadratus femoris, in its back part.

a The tendinous part of its beginning.

b b The extremity, inserted into the oblong eminence of the thigh bone, that stands out partly from the posterior side of the root of the trochanter major, and partly below the same.

Add here Fig. 9.

The *systematic connexion* appears in Tab. VI. z in the lower part of the trunk; in part seated under the lower of the gemini s, and hid behind the biceps of the thigh t x, with the semimembranosus. And what there appears naked in Tab. V. lies under the gluteus magnus γ in the buttock.

FIGURE IX.

The quadratus femoris, anteriorly.

a a Its origin from the outer edge of the tuberculum ischii.

Add here Fig. 8.

FIGURE X.

The obturator internus.

a a a Its tendinous origin from the fore part, and more than half the circumference of the great foramen in the os pubis; whence it first proceeds backwards thro' the side of the pelvis, and then bends round the margin of the ischium at b, goes thro' the sinus or notch that is betwixt the acute process and the tuberculum ischii; and afterwards it runs along the back of the ischium.

c The tendon, in which it ends; inserted at the inner and fore part of the mount of the trochanter major.

The *systematic connexion* appears in Tab. VII. Θ -- Π in the hip; where, as in this figure, the extremity lies hid behind the trochanter major. Then in Tab. VI. w x x y in the lower part of the trunk; where at its origin it lies hid behind the levator ani e, and the coccygeus d; the extremity being under the gemini q. s. And what there appears naked, is in Tab. V. covered by the gluteus magnus γ in the buttock.

FIGURE XI.

The gemini or gemelli.

a The uppermost of the gemini, arising at b from the outer part of the end of the acute process of the ischium, near the sinus or notch thro' which the obturator internus bends itself.

c The tendinous extremity.

d The lower of the gemini, arising at e e from the outer part of the tuberculum ischii, near the lower part of the sinus thro' which the obturator internus bends itself.

f The inner part of its beginning, arising outwardly at g g from the ischium, and from the lunar edge of the sinus thro' which the obturator internus bends itself.

h The tendinous ending.

The extremities being conjoined with the tendon of the obturator internus, are inserted therewith into the inner and fore part of the mount of the trochanter major.

The *systematic connexion* appears in Tab. VI. q. s in the lower part of the trunk; where part of it is covered by the obturator internus w y; and the extremities themselves lie hid behind the trochanter major, as in the present figure. In Tab. V. it lies under the gluteus magnus γ in the buttock.

[O o]

TWENTY-FIRST MUSCULAR TABLE.

FIGURE XII.

The psoas magnus.

a The tendinous beginning of its first head, arising at b from the lower edge of the body of the first dorsal vertebra, and at c from the ligament that is placed betwixt the body of that and the uppermost lumbar vertebra. And in some it arises from the next upper part of the body of that vertebra.

d e The tendinous beginning of the second head, arising at d from the lower edge of the body of the fifth or uppermost lumbar vertebra, and at e from the ligament that is placed betwixt the body of that and the body of the next or fourth vertebra: and in others it arises even from the upper part of the body of the same fourth vertebra.

f g The tendinous beginning of the third head, arising at f from the lower margin of the body of the fourth lumbar vertebra, and from the ligament g that is betwixt the body of that and the body of the third vertebra: and in others also from the next adjacent upper part of the body of the 3d vertebra.

h i The tendinous beginning of the fourth head, arising at h from the lower edge of the body of the third lumbar vertebra, and at i from the ligament that is betwixt the body of that and of the second vertebra: and in others also from the next adjacent upper part of the body of the second vertebra.

k l The tendinous beginning of the fifth head, arising at k from the lower edge of the body of the second lumbar vertebra, and from the ligament l that is betwixt the body of that and the body of the first vertebra: and in others also it arises from the next adjacent upper part of the body of the 1st lumbar vertebra.

m The tendon, in which it ends.

n n The place from whence the flesh of the iliacus internus is cut off, at its conjunction with the tendon of that muscle.

Add here Fig. 13. and 15.

The *systematic connexion* appears in Tab. IV. t &c. in the trunk; where it is in part covered by the psoas parvus r s, and the diaphragm Q R. Then in Tab. III. τ υ in the thigh; where only that part which is in the thigh appears. Then in Tab. II. z in the thigh; in part covered by the internal obliquus of the abdomen O in the trunk, and also by the pectineus Γ in the thigh. Then in Tab. I. F in the thigh, covered by the obliquus externus of the abdomen u v in the trunk, and by the pectineus E in the thigh, and by the sartorius H.

FIGURE XIII.

The heads of the great psoas.

These are all cut off from the psoas, under which they that arise from the bodies of the vertebrae are partly seated; but those heads from the transverse processes are entirely seated under the muscle.

a. d. g. k. n The five heads, which arise from the bodies of the vertebrae and their intermediate ligaments.

a The tendinous beginning of the first head, arising at b from the lower margin of the body of the lowest dorsal vertebra, and at c from the ligament that is betwixt the body of that and the body of the uppermost lumbar vertebra.

d The second head, which arises with a tendinous origin e f, at e from the lower margin of the body of the fifth lumbar vertebra, and at f from the ligament that is betwixt the body of that and of the 4th or next lumbar vertebra.

g The third head, which arises with a tendinous beginning h i, at h from the lower margin of the body of the fourth lumbar vertebra, and at i from the ligament that is betwixt the body of that and the third lumbar vertebra.

k The fourth head, arising with a tendinous origin l m, at l from the lower margin of the body of the third lumbar vertebra, and at m from the ligament that is betwixt the body of that and of the second vertebra of the loins.

n The fifth head, which arises with a tendinous origin o p. at o from the lower margin of the body of the second lumbar vertebra; and at p from the ligament betwixt the body of that and of the first lumbar vertebra.

q. s. u. w. y The five heads, which arise from the fore and lower part of the transverse processes of the lumbar vertebrae.

q The first head, arising with a tendinous beginning at r from the transverse process of the fifth vertebra.

s The second head, arising with a tendinous origin t from the transverse process of the fourth vertebra.

u The third head, arising with a tendinous origin v from the transverse process of the third vertebra.

w The fourth head, arising with a tendinous origin x from the transverse process of the second lumbar vertebra.

y The fifth head, arising with a tendinous origin z from the transverse process of the first vertebra.

Add here Fig. 12. and 15.

FIGURE XIV.

The iliacus internus.

a The portion, by which it arises from the back part of the transverse process of the first or lowermost lumbar vertebra.

b The origin from the ligament k.

c c d The first of its origination from the inner surface of the os ilium, just below the spine of that bone; and its origin is continued from the whole upper surface of that bone.

Below d, where the crista or spine of the os ilium terminates before, it also arises from the anterior part of the os ilium, and then from its inner surface, and from the lower part of the root of the protuberance that stands out from its said margin; and likewise from the adjacent part of the capsule that contains the joint of the thigh bone.

e The concave part of the muscle, next the cavity of the abdomen.

f f The joining of the flesh of this muscle with the tendon of the psoas; it also coheres beneath it.

g The insertion also of the fleshy part itself of this muscle, below the tendon of the said psoas magnus.

h The place where the psoas magnus is cut off.

i The tendon common to the psoas magnus and iliacus internus.

Add here Fig. 15.

The *systematic connexion* appears in Tab. IV. y in the trunk; where it lies partly under the psoas magnus t; then in Tab. III. s in the thigh; where only that portion of it can be seen which enters into the thigh; it is also in part covered by the transversus of the abdomen p p in the trunk, and partly by the psoas magnus τ υ in the thigh. Then in Tab. II. y in the thigh; covered by the obliquus internus of the abdomen O O in the trunk, the psoas magnus z in the thigh, the pectineus Γ, and the rectus x. Then in Tab. I. G in the thigh; covered by the obliquus externus of the abdomen u in the trunk, the psoas magnus F in the thigh, and the sartorius H.

k The ligament, that is extended from the transverse process of the lowest lumbar vertebra, to the nearest part of the spine of the ilium.

FIGURE XV.

The insertion of the psoas magnus and iliacus internus, in its back part.

a The iliacus internus.

Add here Fig. 14.

The *systematic connexion* appears in Tab. VIII. o (and the rest of the iliacus internus ξ) in the hip and thigh, where the external obturator g covers it in part. Then in Tab. VII. ψ in the hip and thigh; covered also in part by the obturator externus Σ. And what is there naked, in Tab. VI. lies behind the quadratus femoris z in the lower part of the trunk.

b The tendon, common to the psoas magnus and iliacus internus, inserted at c c into the less trochanter, which it in a manner encompasseth.

Add here Fig. 12. and 13.

The *systematic connexion* appears in Tab. VIII. π in the hip and thigh, where part of the end is covered by the obturator externus g, with the adductor of the thigh ω. Then in Tab. VII. Ω in the hip and thigh, where part of the end is in the same manner covered by the obturator externus Σ, and the adductor magnus femoris O. And what is there uncovered, in Tab. VI. lies behind the quadratus femoris z in the lower part of the trunk.

The remaining part is behind the psoas magnus Tab. VIII. ϑ in the hip. Then in Tab. VII. y in the hip. In Tab. VI. m in the lower part of the trunk; and the rest lies behind the pyramiformis n, and the gluteus medius i.

FIGURE XVI.

The adductor magnus of the thigh, in its fore part.

a a Its origin from the outer part of the anterior edge of the os pubis, near its synchondrosis; from whence it continues to arise as far as the tubercle of the ischium.

b. c. d Portions which are in some degree distinguished one from the other, chiefly by the different course of the fibres; and which together make the upper extremity of this muscle, inserted along the rough line on the back part of the thigh bone.

e f A portion that is more distinct from the rest, ending in the lower extremity, inserted at the lower condyle of the femur. f the tendon that arises from the fleshy part.

Add here Fig. 17.

The *systematic connexion* appears in Tab. IV. x λ μ υ ξ o in the thigh; where part of it is covered by the common end of the psoas magnus and iliacus internus x. Then in Tab. III. Δ Δ Θ Λ Ξ in the thigh, where the rest of it is covered by the same common end of the psoas magnus and iliacus internus υ ξ, and by the adductor brevis of the thigh ψ, with the gracilis Ψ. Then in Tab. II. Π in the thigh; where also the rest of it is covered by the common end of the psoas magnus and iliacus internus z y, the pectineus Γ, the long adductor of the thigh Δ, the gracilis Λ, and the vastus internus Σ. Then in Tab. I. C in the thigh; covered by the sartorius H, the adductor longus of the thigh D, the gracilis B, and the other muscles remarked in Tab. II.

FIGURE XVII.

The adductor magnus of the thigh, in its back part.

a b Its origin from the outer part of the tuberculum ischii, as far as its bottom: a the tendinous portion, b the aponeurosis that runs thro' the fleshy part at c.

d The portion that springs from the fore part, where it arises along the height of the os pubis.

e e The broad extremity, which ends in some measure tendinous, at its insertion along the femur at f f f into the linea aspera, that runs along the whole back part of that bone.

g The lower end, that forms the tendon h, inserted at i into the middle of the upper part of the side of the inner condyle of the thigh-bone.

k The impression made in this muscle by the gluteus magnus.

l l All that part which is made concave, by the impression of the semimembranosus and semitendinosus.

Add here Fig. 16.

The *systematic connexion* appears in Tab. VIII. ε--D in the thigh. Then in Tab. VII. K N in the thigh; placed also under the semimembranosus A C, and the shorter head of the biceps cruris P. Then in Tab. VI. ε ε in the thigh; covered also by the biceps cruris θ λ, by the semitendinosus o π, the semimembranosus φ; and at its origin hid behind the transversus of the perinaem h, and the second transversalis g, in the lower part of the trunk. Then in Tab. V. θ in the thigh; placed under the semimembranosus ϑ, and the semitendinosus π, as in Tab. VI; also under the gluteus magnus γ in the buttock.



THE TWENTY-SECOND ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

REMAINING MUSCLES OF THE THIGH.

Add here Tab. XXI.

FIGURE I.

The adductor longus of the thigh, in its fore part.

a The tendinous beginning, arising at b from the ligament by which the synchondrosis of the ossa pubis is tied together in its fore part, immediately above the protuberance that is in the anterior and upper part of the os pubis: and at c from the said protuberance itself.

d The tendinous part of its extremity.

Add here Fig. 2.

The *systematic connexion* appears in Tab. II. $\Delta \Theta$ in the thigh; covered by the vastus internus $\Phi \Sigma$, and the gracilis $\Lambda \Xi$; and hid also behind the testicle and cremaster muscle p. Then in Tab. I. D in the thigh, covered by the sartorius H, the gracilis B; and likewise hid behind the testicle and cremaster z.

Laterally it appears in Tab. IX. m in the left hip and thigh.

FIGURE II.

The end of the long adductor of the thigh, in its back part.

a a The fleshy part cut off.

b The tendinous part of its end, inserted at c c along the middle of the thigh bone, into the rough line that appears along the posterior side of that bone.

Add here Fig. 1.

FIGURE III.

The end of the adductor brevis femoris, in its back part.

a a The fleshy part cut off.

b. c. d The extremity divided into three portions, of which portions the part e is tendinous.

f g h h Their insertion into the rough eminence or line that runs along or divides the back part of the femur; and particularly into the upper part of it that is next below the trochanter minor.

Add here Fig. 4.

FIGURE IV.

The adductor brevis of the thigh, in its fore part.

a The head which is outwardly tendinous, arising at b from the fore part of the os pubis at the synchondrosis or cartilaginous juncture, and below the origin of the adductor longus: arising also at c from the ligament that covers or confines the said synchondrosis.

d The tendinous end.

In the middle is an impression or cavity made in this muscle, by the pectineus and long adductor of the thigh.

Add here Fig. 3.

The *systematic connexion* appears in Tab. III. $\Psi \omega \Gamma$ in the thigh; covered by the gracilis Ω , and the iliacus internus with the psoas magnus $\varsigma \upsilon$, and hid with its extremity behind the thigh bone. And what there appears naked, is in Tab. II. placed behind the long abductor of the thigh $\Delta \Theta$, with the pectineus Γ , and vastus internus $\Phi \Sigma$.

FIGURE V.

The pectineus, in its fore part.

a a b Its origin at a a from the oblong eminence which runs all along the upper part of the os pubis, as far as the protuberance that stands out from its fore part near the synchondrosis; and at b from the said protuberance itself.

c The tendinous end.

Add here Fig. 6.

The *systematic connexion* appears in Tab. II. Γ in the thigh, covered by the long abductor of the thigh Δ , the vastus internus $\Phi \Sigma$, the psoas magnus z, with the iliacus internus y, and the internal obliquus of the abdomen O in the trunk; and hid also behind the cremaster p q in the trunk. Then in Tab. I. E in the thigh; covered likewise by the long abductor of the thigh D, and by the sartorius H, and the external obliquus of the abdomen v in the trunk; hid also behind the cremaster z in the trunk.

Laterally its connexion appears in Tab. IX. n in the left hip and thigh.

FIGURE VI.

The end of the pectineus, in its back part.

a a The fleshy part here cut off.

b The tendinous end, inserted at c c into the linea aspera of the thigh bone, where it is continued downward a little below the lesser trochanter.

Add here Fig. 5.

FIGURE VII.

The obturator externus, in its back part.

a The part that stops up the great foramen in the os pubis.

b b Part of its origin from the inner edge of the great foramen in the os pubis.

c The tendinous part of its extremity; the tendinous end of which is inserted into the back part of the inner side of the root of the great trochanter.

Add here Fig. 8.

The *systematic connexion* appears in Tab. VIII. $\xi \zeta \sigma \tau$ in the ischium, partly hid behind the great adductor of the thigh ω . Then in Tab. VII. $\Sigma \Xi \Phi$ in the ischium, covered by the obturator internus $\Theta--\Pi$, and partly hid behind the adductor magnus of the thigh O, and the semimembranosus B in the thigh. Then in Tab. VI. $\nu \nu$ in the lower part of the trunk; covered by the obturator internus w y, and the lower of the gemini s, and the quadratus femoris z; partly hid also behind the coccygeus d: and what is there uncovered, in Tab. V. lies behind the gluteus magnus γ in the buttock.

FIGURE VIII.

The obturator externus in its fore part.

a a The tendinous beginning, arising at b b b from the fore part of the os pubis and ischium, and from the anterior half part of the circumference of the great foramen in the os pubis, continuing to arise from the top of the foramen to its bottom.

Add here Fig. 7.

The *systematic connexion* appears in Tab. IV. $\alpha \beta$ in the trunk; covered by the great abductor of the thigh $\kappa \lambda$, in the thigh, and the psoas magnus, with the iliacus internus x. Then in Tab. III. $\phi \chi$ in the trunk and thigh, covered in like manner by the adductor magnus of the thigh Δ , and the psoas magnus with the iliacus internus υ , and also by the short abductor of the thigh $\Psi \omega$. And what is there (in Tab. III.) naked, in Tab. II. lies behind the pectineus Γ in the thigh.

MUSCLES OF THE LEG.

Add here Tab. XXIII. Fig. 1. 2. 3. 4. 5. 6. 7.

FIGURE IX.

The semimembranosus, in its fore part.

a The tendon, by which it begins.

b The origin of the tendinous tail from its fleshy part, which is afterwards wholly tendon at c; and inserted chiefly at d into the upper head of the tibia, just below its upper round edge that is near the back part of its inner side.

e The anterior aponeurosis, inserted into the edge of the tibia, on that side where the principal part of the tendon inserts itself.

Add here Fig. 10. a--g.

The *systematic connexion* appears in Tab. III. $\Pi \Sigma \Phi$ in the thigh; covered by the gracilis Ψ A B, the adductor magnus of the thigh $\Delta \Theta \Lambda$, and above the quadratus. And what appears naked in Tab. III. is in Tab. II. covered by the vastus internus Σ in the thigh. And in the first table it appears behind the inner head of the gemellus.

FIGURE X.

The semimembranosus, and short head of the biceps of the thigh, in their back part.

a--g The *semimembranosus*.

a The tendon, by which it begins, arising at b from the upper part of the back of the tuberculum ischii, near its outer side.

c The fleshy belly.

d The origin of its tendinous tail from the fleshy belly of the muscle.

e The principal part of the said tail, inserted into the upper head of the tibia.

f The posterior aponeurosis of the said tail, inserted into the rough oblique eminence that is below the back part of the root of the upper head of the tibia, where it sustains the inner condyle of the femur.

g The anterior aponeurosis, which it inserts into the inner edge of the tibia.

In the head and upper part of the belly of this muscle, is a cavity impressed by the semitendinosus.

Add here Fig. 9.

The *systematic connexion* appears in Tab. VII. A--G in the thigh; covered by the gracilis H I. Then in Tab. VI. $\phi--\Gamma$ in the thigh; covered in like manner by the gracilis $\varsigma \tau$, and by the semitendinosus $\sigma--\varsigma$, and the biceps of the leg $\theta \lambda$. Then in Tab. V. $\nu \nu \xi \theta$ in the thigh, covered by the same muscles as in Tab. VI. and moreover by the gemellus $\Pi \Sigma$ in the leg.

[P]

T W E N T Y - S E C O N D M U S C U L A R T A B L E .

Laterally its connexion appears in Tab. IX. P Q R S in the right leg.
 h--m *The short head of the biceps muscle of the leg.*
 i Its origin near the middle of the thigh-bone, from the lower part of the rough line that is extended along the back part of that bone. It also arises from the tendinous partition, that is placed betwixt itself and the vastus internus muscle.
 k k Part of the tendon cut off, which arises from the longer head of this muscle.
 l Part of the tendon, that is increased by the accession of the flesh of the shorter head.
 m The tendinous end, inserted at n into the outer part of the upper head of the fibula.
 Add here Fig. 11. g--p. and Fig. 12. a--g.
 The *systematic connexion* appears in Tab. VII. P &c. in the thigh. Then in Tab. VI. λ λ &c. in the thigh; covered by the longer head σ u.

F I G U R E X I .

The semitendinosus and biceps of the leg, posteriorly.

a--f *The semitendinosus.*
 a The tendinous part of its origin, arising at b from the back of the tuberculum ischii, together with the longer head of the biceps; and then joining the tendinous beginning of that head at c c; from whence its beginning goes off.
 d The fleshy part of its origin, which in some other subjects is tendinous, arising from the back of the tuberculum ischii.
 e The tendon, in which it ends.
 f The impression made by the gluteus magnus.
 Add here Fig. 12. h--m.
 The *systematic connexion* appears in Tab. VI. o--s in the thigh; covered by the longer head of the biceps θ, and in the end placed behind the semimembranosus Γ. Then in Tab. V. π g in the thigh; covered also by the longer head of the biceps σ, the semimembranosus o, and the gluteus magnus γ in the buttock.
 Laterally its connexion appears in Tab. IX. T U in the right leg, and z in the left thigh.
 g--p *The biceps of the leg.*
 g The longer head of the biceps.
 h The tendon, by which it begins, and arises at i from almost the middle of the upper part of the back of the tuberculum ischii, conjoined at its origin with the beginning of the semitendinosus.

k k The shorter head of this muscle.
 l The common tendon, in which the two heads terminate; arising first at l from the surface of the flesh of the longer head, then increased by the accession of the flesh of the shorter head, and afterwards inserted by the short end n, into the outer part of the upper head of the fibula at o.
 p The impression made in this muscle by the gluteus magnus.
 Add here Fig. 10. h--n. and Fig. 12. a--g.
 The *systematic connexion* appears in Tab. VI. θ--ξ in the thigh. Then in Tab. V. σ--χ in the thigh, covered by the gluteus magnus γ in the buttock.
 Laterally its connexion appears in Tab. IX. α--ζ in the left leg.

F I G U R E X I I .

The biceps and semitendinosus, in their fore part.

a--g *The biceps of the leg.*
 a The longer head of the biceps. b the tendon, by which it begins, and which runs a considerable way thro' its origination, from that part where it joins the semitendinosus.
 c The shorter head of this muscle.
 d The tendon, in which it ends; and of which principal part e is inserted into the outer part of the upper head of the fibula: g the part belonging to the tibia, at its outer part before the head of the fibula.
 Add here Fig. 11. g--p. and Fig. 10. h--n.
 The *systematic connexion* appears in Tab. III. C D E F in the thigh; where the rest lies behind the thigh bone and the large adductor of the thigh Δ Δ Θ. Then in Tab. II. ς ς τ in the leg and thigh; placed in like manner behind the vastus externus δ. Then in Tab. I. Ξ Π Σ in the thigh and leg; covered in like manner by the vastus externus P, and placed behind the outer head of the gemellus, and beginning of the plantaris.
 h--m *The semitendinosus.*
 i The tendinous part of its beginning; which at k k is conjoined with the tendinous origin of the longer head of the biceps; from whence the beginning of this muscle goes off.
 l l The tendon, in which it ends; inserted at m into the inner side of the tibia, just below the gracilis.
 Add here Fig. 11. a--f.
 The *systematic connexion* appears in Tab. II. g in the leg; where the rest of it is placed behind the gracilis π o, and the adductor magnus of the thigh. Then in Tab. I. α in the thigh; placed under the sartorius Ψ.





THE TWENTY-THIRD ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

REMAINING MUSCLES OF THE LEG.

Add here Tab. XXII. Fig. 9. 10. 11. 12.

FIGURE I.

The popliteus.

a The tendon, by which it begins, and arises at b from a sinus that is in the middle of the lower part of the outer side of the external condyle of the femur, just above the margin of that part which rests on the tibia.

That part which usually arises either from the outer edge of the femoral cartilage of the knee, or from the broad ligament of the joint of the knee, could not be here represented.

c The tendinous portion.

d d The extremity, by which it inserts itself into that part of the back side of the tibia, that is betwixt the root of its upper head and the oblique eminence, from whence the soleus arises: and the whole breadth by which it terminates is inserted into the inner edge of the tibia, that is next the other leg.

The *systematic connexion* appears in Tab. VII. W X Y in the leg; covered by the biceps cruris R S in the thigh, and the outer head of the gemellus T in the leg, with the femimembranosus G. Then in Tab. VI. $\Delta \Xi \Pi$ in the leg; covered also by the biceps ξ in the thigh, and the outer head of the gemellus Θ in the leg, and the femimembranosus Γ , with the plantaris Σ , and the soleus A Ψ . Then in Tab. V. Δ in the leg; covered by the biceps $\Phi \chi$ in the thigh, and the gemellus A Π in the leg.

FIGURE II.

The rectus of the leg, laterally.

a The principal tendon, by which it arises at b b from the upper part of the protuberance, that is in the fore edge of the os ilium.

c Another tendinous beginning, arising at d d from the upper and posterior part of the edge of the acetabulum, and from the adjacent part of the capsule of the joint or upper head of the femur.

e The surface of the fleshy belly, which continues for some way outwardly tendinous, from those originations.

f The tendon, in which it ends, beginning its origination suddenly from the inner part of the muscle at g.

h The place where the tendon is cut off.

Add here Fig. 3.

The *systematic connexion* appears in Tab. IX. λ in the left leg; covered by the sartorius p, and the extensor vaginalis of the thigh q: and A B C in the right leg.

FIGURE III.

The rectus cruris, in its fore part.

a The principal tendon, by which it arises at b b from the inner part of the protuberance, that is in the anterior edge of the os ilium.

Near c is the other tendinous origination.

d That part of the fleshy belly, which is for some length outwardly tendinous, from an excursion of its tendinous originations.

e e The oblique declension of the fibres, in each side of the surface of the muscle, from the middle downwards.

f The tendon, in which it terminates; and which inserts itself at g g into the patella, and afterwards joins to the fore part of the ligament that belongs to the tibia and patella.

Add here Fig. 2.

The *systematic connexion* appears in Tab. I. T--X in the thigh; covered by the sartorius H, and the extensor vaginalis of the thigh M. Then in Tab. II. x, and $\iota \kappa \lambda$ in the thigh; covered by the iliacus internus y, and the gluteus minor u in the trunk.

i The ligament that joins the tibia and patella.

k k The place where the said ligament arises below from the patella.

l l The place of its insertion into the tibia, and all the way under the part m.

The *systematic connexion* appears in Tab. I. $\Delta \Theta \Lambda$ in the leg. And in Tab. II. $\mu \nu \xi$ in the leg.

Laterally its connexion appears in Tab. IX. D E F G in the right leg; and $\sigma \tau \upsilon$ in the left leg.

FIGURE IV.

The sartorius.

a The origin, which is outwardly tendinous, springing at b from the anterior extremity of the spine of the os ilium, and from the next adjacent part of the anterior edge of that bone.

c The tendon, in which it ends; inserted at d d into the inner side of the tibia near the lower part of the protuberance, to which is fixed the ligament that joins the patella to the tibia.

The *systematic connexion* appears in Tab. I. H I $\Phi \Psi \Omega$ in the leg and thigh; in part concealed behind the vastus internus Y.

Laterally its connexion appears in Tab. IX. K L M in the right leg; and p in the left leg.

In its back it appears in Tab. V. λ in the thigh.

FIGURE V.

The gracilis.

a The tendinous beginning, near the synchondrosis of the pubis, springing from the ligament at b that ties together the said synchondrosis. It also arises below the same from the edge of the os pubis.

c The impression made in this muscle by the adductor longus of the thigh.

d The tendon, in which it ends; inserted at e into the tibia, just below the insertion of the tendon of the sartorius.

The *systematic connexion* appears in Tab. III. Ψ --B in the thigh. Then in Tab. II. $\Delta \Xi \circ \pi$ in the thigh and leg; where in the end it is a little covered by the sartorius ξ ; and is partly hid behind the vastus internus Σ , and by the testicle with its cremaster muscle p in the trunk. Then in Tab. I. B in the thigh; covered by the sartorius H $\Phi \Psi$, and hid behind the vastus internus Y, and by the testicle with its cremaster muscle z in the trunk.

In its back part the connexion appears in Tab. VII. H I in the thigh, along its inner side, by the femimembranosus C D E. Then in Tab. VI. $\varsigma \tau$ in the thigh, below seated behind the femitendinosus ς , and above concealed behind the transverse muscles of the perinæum h. g in the lower part of the trunk. Then in Tab. V. $\iota \kappa$ in the thigh; below seated behind the femitendinosus ξ , and the sartorius λ ; above it lies behind the gluteus magnus γ in the buttock.

Laterally its connexion appears in Tab. IX. N O in the right leg.

e The ligament, by which the synchondrosis of the pubis is tied together in its fore part.

FIGURE VI.

The vastus internus and externus, in their posterior part.

a a b The *vastus internus*.

a a Its origination from the oblique eminence, that stands out from below the less trochanter, from the bottom of the root of the neck of the femur to the long rough line or posterior spine of the femur; and then continues to arise all the way from the inner side of the said linea aspera, thro' its whole extent.

b The portion that is tendinous from the whole beginning for a considerable way.

Add here Fig. 7. k--p.

The *systematic connexion* appears in Tab. VI. υ in the thigh; covered by the gracilis $\varsigma \tau$, the femimembranosus $\Phi \phi \chi$, and the adductor magnus of the thigh ϵ . Then in Tab. V. μ in the thigh, covered by the fore-mentioned muscles, and by the sartorius λ .

c c d e The *vastus externus*.

c c Its origination from the outer part of the root of the trochanter major, and along the whole extent of the spine call'd *linea aspera*, which stands out from the great trochanter almost to the outer condyle of the thigh bone.

It goes off partly likewise from the tendinous partition, that divides it from the shorter head of the biceps; which partition is here taken away.

d e The tendinous part. e the impression made in this muscle by the gluteus magnus.

Add here Fig. 7. a--i.

The *systematic connexion* appears in Tab. VI. β -- δ in the thigh; where it is covered by the biceps muscle of the leg $\theta \lambda \mu \nu$. Then in Tab. V. $\psi \omega$ in the thigh; covered also by the biceps cruris $\sigma \tau \upsilon \phi$, and it is also hid behind the gluteus magnus γ in the buttock.

FIGURE VII.

The vastus externus and internus, with the cruraeus, in their fore part.

a b c d e f f f g h i i The *vastus externus*.

b c Its origin from the oblique eminence, that is in the fore part of the femur at the root of its neck betwixt the trochanters: and at c d from the outer part of the root of the great trochanter itself.

e A tendinous portion of its origin.

f f f g The considerable impression that is made in this muscle by the rectus extensor of the leg.

g h The tendon, inserted at i i into the edge of the patella, on its external side, and upper margin.

Add here Fig. 6. c c d e.

The *systematic connexion* appears in Tab. II. δ -- θ in the thigh; covered by the rectus cruris $\iota \kappa$. Then in Tab. I. P--S in the thigh; covered by the rectus cruris T V, and the extensor vaginalis of the thigh M O.

[Q q]

T W E N T Y - T H I R D M U S C L A R T A B L E .

Laterally its connexion appears in Tab. IX. $\eta \theta \iota \kappa$ in the left leg.
 k l m n n o p p The *vastus internus*.
 l l The impressiō made in this muscle by the rectus cruris.
 m Its origin from the oblique eminence, that is stretched out below the less trochanter at the root of the neck of the femur.
 n n The part whereia the flesh of this muscle joins the tendon of the cruræus.
 o The tendon, inserted at p p into the margin of the patella, on its inner side. But above it joins the tendon of the vastus externus, and being connected with that, proceeds to the edge of the patella.
 Add here Fig. 6. a a b.
 The *systematic connexion* appears in Tab. II. $\Sigma--\alpha$ in the thigh; covered by the rectus cruris $\iota \kappa$. Then in Tab. I. Y Z Γ in the thigh; covered by the rectus cruris T V, and the sartorius H.
 Laterally its connexion appears in Tab. IX. H I in the right leg: and $\pi \epsilon$ in the left.
 q r s The *cruræus* or cruralis muscle.
 r The tendon, arising from the fore part of the flesh. This tendon joins itself to the tendons of the vastus externus and internus, a little above the knee, and is then inserted behind them into the upper part of the patella.
 s The highest part of the origin of the rectus from the oblique eminence, that is in the fore part of the femur at the root of its neck, betwixt the two

trochanters. It also continues to arise from more than the upper half of the whole length of the thigh bone, from its anterior and outer part.
 The *systematic connexion* appears in Tab. II. $\beta \gamma$ in the thigh; covered by the vastus externus $\delta--\theta$, and the vastus internus $\Sigma--\alpha$; also by the rectus cruris $\iota \kappa$. And what is there naked, in Tab. I. lies behind the rectus T in the thigh.

M U S C L E S O F T H E T E N D I N O U S V A G I N A , O R S W A T H O F T H E T H I G H .

F I G U R E V I I I .

The tensor vaginae femoris.

a The tendinous beginning, arising at b from the outer part of the anterior extremity of the spine of the os ilium.
 c The extremity, from whence the tendinous part that joins it to the tendinous vagina or fascia of the thigh is cut off.
 The *systematic connexion* appears in Tab. I. M N O in the thigh; where it is cover'd by the sartorius H I.
 Laterally its connexion appears in Tab. IX. q r s in the left hip and thigh.





THE TWENTY-FOURTH ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

MUSCLES OF THE FOOT.

Add here the *peroneus tertius* Tab. XXV. Fig. 1. a θ ι κ .

FIGURE I.

The peroneus brevis, in its back part.

a Part of its origin from the fibula. Below the said part it continues to arise from the spine, which terminates the outer edge or side of the fibula in its back part; ceasing to arise from the said spine near the outer angle.

b c d The tendon. c the broader and thicker portion of the said tendon, which bends itself round the ankle, where it is tied down by a ligament, which see in Tab. V. n in the leg; d the part which is also thicker and broader than the rest, where it passes thro' the second ligament near the upper part of the protuberance of the calcaneum; which see in Tab. V. o in the foot, and Tab. IX. F in the left foot.

e Its insertion into the upper and back part of the root of the tubercle in the fifth metatarsal bone, at the outer part of its first head.

Add here Fig. 2.

The *systematic connexion* appears in Tab. VIII. M--R in the leg and foot. Then in Tab. VII. u--x in the leg and foot, covered by the *peroneus longus* m p q &c. Then in Tab. VI. I--M in the leg and foot; covered in like manner by the *peroneus longus* N P Q &c. Then in like manner in Tab. V. g--k in the leg and foot; covered by the *peroneus longus* l m.

FIGURE II.

The peroneus brevis, in its fore part.

a a Its origin from the outer side of the fibula, and below from the spine, which terminates the outer side of that bone in its back part.

It also arises in part from the tendinous vagina or covering of the leg, and from the continuation of that vagina that on one side lies betwixt the *peroneus longus* and *brevis*, and on the other side it has the long extensor of the toes and the *peroneus tertius*.

Add here Fig. 1.

The *systematic connexion* appears in Tab. IV. ω Γ Δ in the leg. Then in Tab. III. M O in the leg; covered by the *peroneus longus* G L. Then in Tab. II. ω in the leg, covered by the *peroneus longus* ϕ ψ , and the long extensor of the toes, with the *peroneus tertius* τ ϕ χ ψ .

Laterally its connexion appears in Tab. IX. B B C C D D E in the left leg, placed behind the *peroneus longus* Σ Ψ Ω .

Also in Tab. X. Fig. 20. y, and 21. A, and 22. a.

FIGURE III.

The peroneus longus, in its back part.

a One of its originations, arising at b from the lateral outer and fore part of the root of the upper head of the fibula.

c d e The other head, arising at c d e from more than the upper half of that part of the spine of the fibula which is in its outer side, and begins to project or stand out a little below its upper head: but from d to e it arises beneath.

f The tendon, whose first knot g bends behind the outer angle: and the second h is at the eminence in the outer side of the calcaneum: i the third, which is at the cubiform bone of the foot.

The ligaments, by which the tendon is tied down at the ankle, and at the protuberance of the calcaneum; see Tab. V. n and p in the leg and foot. Add A in the left foot of Tab. IX.

Add here Fig. 4. and 5.

The *systematic connexion* appears in Tab. VII. m--t in the leg and foot. Then in Tab. VI. N O--T in the leg and foot; covered also by the soleus Ω Ψ . Then in Tab. V. Θ l m m in the leg and foot; covered likewise by the soleus a b.

FIGURE IV.

The peroneus longus, in its fore part.

a The origin of its upper part from the lateral outer side of the fore part of the root of the upper head of the fibula; and at b from the adjacent fore part of the tibia.

c c d d The origin of the lower portion, from more than the upper half of that spine of the fibula, which is in its external side, not much below where its upper head begins to protuberate.

It also in part goes off from the tendinous covering of the leg, and from that branch of the said covering, which lies betwixt the *peroneus longus* and the long extensor of the toes.

e e The impression made in this muscle by the long extensor of the toes.

f The lower sinuated portion, in which the *peroneus brevis* is lodged.

g The tendon, arising from the outer part of the flesh.

Add here Fig. 3. and 5.

The *systematic connexion* appears in Tab. III. G--L in the leg; where it is partly covered by the *peroneus brevis* M. Then in Tab. II. ϕ χ ψ in the leg;

covered by the *peroneus brevis* ω , and the long extensor of the toes A. Then in Tab. I. σ π ρ in the leg; covered in like manner by the short *peroneus* σ , and the long extensor of the toes τ υ .

Laterally its connexion appears in Tab. IX. Σ -- Ω in the left leg; placed behind the soleus ω .

FIGURE V.

The peroneus longus, in the sole of the foot.

a The tendon, in which b denotes a knot that is placed at the protuberance of the calcaneum, which is in its outer side: and c denotes a more considerable knot, where it bends round the eminence that is in the lower part of the cubiform bone of the tarsus, a little after the sinus of the said bone which is before its eminence.

d Its extremity, inserted into the bottom and back of the most protuberant part of the metatarsal bone belonging to the great toe.

e The portion that goes off from the tendon, and which passing round the cubiform bone of the tarsus, divides into two parts f. g, inserted at h. i into the great cuneiform bone of the foot.

k Another portion going off from the tendon, inserted at l into the second metatarsal bone.

For the manner in which it is confined in the sinus of the cubiform bone by its ligament, see in Tab. X. Fig. 21. N O.

Add here Fig. 3. and 4.

The *systematic connexion* appears in Tab. X. Fig. 22. b--i. Then in Fig. 21. B C D, and betwixt r and l; where it lies under the ligament N O; and covered by the adductor of the great toe l m, and short flexor o p r. Then in Fig. 20. z α β ; placed behind the same muscles as in Fig. 21. and behind the long flexor of the toes and lumbricales. And what appears naked in Fig. 20. the same is in Fig. 19. covered by the abductor of the little toe A B.

FIGURE VI.

The tibialis anticus.

a a Its origin from the tibia, in its uppermost end a little before the origin of the long extensor, whence its origination takes up the whole outer flat side of the tibia, extending in breadth from its head along its anterior spine as far as the middle of the tibia; and is also partly attached to the adjacent interosseus ligament of the leg. But from the said middle it arises for a long way according to the length of the leg from the said interosseus ligament, and especially from the tibia near the said ligament; and so it goes on for about two thirds of the length of the tibia.

b Part of the tendinous covering of the leg, from the inner surface of which the tibialis here arises: c c the place where the said covering is cut off, where the muscle no longer continues to arise from it.

It arises also from that branch of the said covering, that is placed betwixt this tibialis muscle and the long extensor of the toes.

d The tendon, in which it ends. The manner in which the said tendon goes under the horns of the ligament, by which the tendons are confined in the bend of the foot as far as the end of the leg, see in Tab. I. r t in the leg and foot: and in Tab. IX. ι κ in the right foot, and y z in the left.

Add here Fig. 7.

The *systematic connexion* appears in Tab. I. n--p in the leg and foot; where in part it is covered at the bottom by the abductor of the great toe A.

Laterally its connexion appears in Tab. IX. U V W in the left foot: and η θ in the right foot.

FIGURE VII.

The bifurcated end of the tibialis anticus, in the sole of the foot.

a One of the horns of the end, inserted at b into the round and smooth surface in the inner and lower part of the cuneiform bone, and into the edge of the first metatarsal bone.

d The other and smaller head, inserted at d just before the preceding into the eminence that is in the head of the first metatarsal bone of the great toe, at its inner side, and almost in the middle.

Add here Fig. 6.

The *systematic connexion* appears in Tab. X. Fig. 22. k. l. Then in Fig. 21. ζ . η ; where in part it is covered by the short flexor of the great toe y. Then it appears in like manner at Fig. 20. i. k; in part covered by the short flexor of the great toe p. And what there appears naked, is in Fig. 19. covered by the abductor of the great toe F.

FIGURE VIII.

The soleus, in its fore part.

a a b c c Its origin from the upper head of the fibula, and from a large part of the spine, which stands out below its head in the back part of the bone.

d e f f Its origin, at d e from the eminence of the tibia which is in its back part, and stands out obliquely below from its upper head; and where that

[R r]

T W E N T Y - F O U R T H M U S C U L A R T A B L E.

eminence ends, it continues to arise at e f f from the posterior margin of the inner spine of the tibia, beyond the middle of the said length of the bone.

g. h The tendinous surface running out a considerable way.
i i The tendinous portion, which like a partition divides the fleshy part. But it begins internally almost in the beginning of the muscle itself.

k k. l l Fleshy fibres which descending from each side, run together and join the tendinous partition i i.

m. n The two points in which the flesh of each side terminates; and of which the inner, marked n, is thicker, larger, and runs out longer.

I have also seen these two fleshy parts joined in one at their ends; so as to form a single tip or point, but larger, in their end.

o The tendon, by which the soleus is inserted into the calcaneum at p, from whence it is cut off.

q The tendinous surface, from whence the tendon on that side begins.

Add here Fig. 9.

The *systematic connexion* appears in Tab. I. $\xi \epsilon \eta$ in the leg; where the rest of it is covered by the peroneus longus $\sigma \pi \epsilon$, and by the long flexor of the toes $\theta \kappa$, with the tibialis posticus λ : to these add ν in the same figure. Also in Tab. II. $\nu \text{ N P}$ in the leg; covered in the same manner by the peroneus longus $\phi \psi$, and the long flexor of the toes $Q S$, with the tibialis posticus V : to which add Y .

r r r r The tibia or great bone of the leg cut off from before the muscle.

s s The fibula or less bone of the leg cut off in like manner.

F I G U R E I X.

The soleus, in its back part.

a Its origin from the back part of the upper head of the fibula.

b A tendinous part of its beginning, which arises from the tibia c c. But it springs from that eminence of the tibia, which stands out obliquely from the back part of its upper head.

d d The tendinous surface, whence the tendon of its back part arises.

e e The mark which resembles an indentation, where the fleshy part is divided within by a tendinous partition.

f The tendon, in which it ends.

g g The tendon of the gemellus here cut off, where it first joins itself to the tendon of the soleus. It joins that tendon in an oblique course, sooner on the outer side of the leg.

h The tendo Achillis, inserted at i i into the posterior and lower protuberant part of the tubercle of the calcaneum, which forms the heel.

Add here Fig. 8.

The *systematic connexion* appears in Tab. VI. Ω -- E in the leg; where it is partly covered by the plantaris Φ . Then in Tab. V. a a b in the leg; covered by the gemellus Λ -- Φ .

Laterally its connexion appears in Tab. IX. $\omega \Delta \Theta$ in the left leg; covered by the gemellus $\phi \psi$; and $\Gamma \Delta$ in the right leg; covered by the gemellus $W X$, and the plantaris Λ .

F I G U R E X.

The gemellus.

a b c d e e f The inner head, beginning by two tendinous origins b. d, of which

b the lower tendon is thick and arises at c e just above the back part of the inner condyle of the femur, near its inner side.

d The upper thin head, which arises at e e from the edge of the back part of the femur, near its inner side, just above its lower origin.

f The tendinous surface, formed by an excursion of the tendinous surface.

g h i i k The outer head, arising with a tendinous beginning h, from the oblong eminence i i that is in the outer side of the femur, near its back part, just above the sinus from whence the popliteus arises.

k The tendinous surface, which the tendinous origin forms by an excursion.

l m The two points or tips in which the flesh ends.

n The tendon, that joins the tendon of the soleus.

The *systematic connexion* appears in Tab. V. Λ -- Φ in the leg; lying under the outer head of the bicipital muscle of the leg $\tau \phi$ in the thigh; and within the femimembranofus $\nu \xi \sigma$. Also in Tab. VI. Δ and Θ in the thigh: and in Tab. VII. T and U in the thigh.

Moreover its connexion appears in its fore part in Tab. I. $\beta \gamma \delta \nu \nu$ in the leg. And laterally in Tab. IX. $\phi \chi \psi \Theta$ in the left leg; and V -- Y in the right.

o The tendon of the soleus, here cut off at p.

q The tendo Achillis, inserted at r r into the posterior and most eminent part of the protuberance of the calcaneum, that forms the heel.

F I G U R E X I.

The plantaris.

a a Its origin from the root of the outer condyle of the femur, near the inner part of the origin of the gemellus.

b The tendon, in which it ends; inserted into the inner side of the calcaneum, near the end of the tendo Achillis: which see in Tab. IX. Ξ in the right foot.

The *systematic connexion* appears in Tab. VI. $\Sigma \Phi$ in the thigh and leg; at its origin seated behind the outer head of the gemellus Θ , and of the bicipital muscle of the leg λ ; in its end behind the tendo Achillis D . Then in Tab. V.

Γc in the thigh and leg; placed likewise behind the gemellus Λ -- Φ , and the biceps of the leg τ ; in the end behind the tendo Achillis Ψ . Moreover in Tab. VII. V in the thigh.

In the fore part its connexion appears in Tab. II. T in the leg. And in Tab. I. μ in the leg. And laterally its connexion appears in Tab. IX. $\Lambda \Xi$ in the right foot: and Π in the left.

F I G U R E X I I.

The tibialis posticus, in its back part.

a a Its origin from the tibia, from whence it arises outwardly tendinous at b b. It arises from the flat side of the tibia at the root of that part to which the fibula is jointed, and is in some measure extended downwards over that part which lies next the fibula.

c The origin from the fibula, from whose whole flat surface it continues to arise for more than two thirds of its length, extending from beneath the upper head of that bone towards the tibia: see Tab. IV. $\nu \nu$ in the leg. It arises partly also from the ligament that is fixed betwixt the bones of the leg, where they are most apart from each other.

d d The tendinous surface of that part, which arises from the fibula.

e f The tendon, arising at e from the fleshy part, and passing behind the inner angle at f, where it is thicker and harder. How it is retained there by the ligament, see in Tab. V. e in the leg, and in Tab. I. u in the leg and foot, and in Tab. IX. δ in the right foot.

Add here Fig. 13. and 14.

The *systematic connexion* appears in Tab. VIII. E -- L in the leg. Then in Tab. VII. Z -- d e in the leg; behind the popliteus $W Y$, and the long flexor of the great toe h, and the long flexor of the toes f. Then in Tab. VI. G in the leg; where the rest is covered by the soleus Ω &c. So also in Tab. V. d in the leg.

F I G U R E X I I I.

The tibialis posticus, in its fore part.

a The tendon going to the inner angle, behind which it bends and goes along the inner side of the foot, where it is confined by a ligament, see x in the foot of Tab. I. and ζ in the right foot of Tab. IX.

c The principal part of the tendon, inserted into the lower and most eminent part of the thick and rough protuberance, that stands out from the navicular bone, in the inner side of the foot.

d A thin portion running out from the tendon, and inserted at e into the lower part of the first cuneiform bone, near its posterior edge.

Add here Fig. 12. and 14.

The *systematic connexion* appears in Tab. IV. π -- ψ in the leg and foot. And in Tab. III. P -- R S -- U in the leg and foot. Then in Tab. II. F V W X in the leg and foot; covered by the long extensor of the toes A, and the proper extensor of the great toe H I. Then in Tab. I. λy in the leg and foot; where, what appears of it naked in Tab. II. lies behind the tibialis anticus n in the leg: the extremity being covered by the abductor of the great toe A in the foot.

Laterally its connexion appears in Tab. IX. $\beta \beta \gamma$ in the right foot.

F I G U R E X I V.

The tendon of the tibialis posticus, in the sole of the foot.

a The place where the tendon is cut off.

b The knot of this tendon, which lies close upon the head of the astragalus, and on the lower and back part of the protuberance in the navicular bone: only the ligament lying betwixt which sustains the head of the astragalus, and passes along the sole of the foot, from the calcaneum and navicular bone.

c The principal part of the tendon here inserted beneath the navicular bone, into the lower and most eminent part of the thick rough protuberance, that stands out from that bone on the inner side of the foot.

d d The thin expanded portion, inserted in the lower and back part of the first cuneiform bone.

e The thin portion, which is inserted at f into the bottom and back part of the protuberance in the third cuneiform bone: and it runs on at g to the second metatarsal bone, and at h to the third; and inserts itself into the lower part of the head of the former, on that side which is next the little toe. It also gives off the portion i to the short flexor of the great toe, which portion is cut off at k.

l Another portion going off from the tendon, and dividing into two m. o: of which m is inserted into the lower part of the calcaneum at n, near the cuboide bone, near that edge which is next the astragalus: the other part o is inserted at p into the lower part of the cuboide bone, near the posterior edge of the third cuneiform bone.

Add here Fig. 13. and 12.

The *systematic connexion* appears in Tab. X. Fig. 21. E F G H I; where it is in part covered by the short flexor of the great toe p, the adductor of the great toe l k, and by the tendons of the long peroneus. Then in Fig. 20. f g h; covered by the tendon of the long flexor of the toes A B, and by the head that joins it in the sole of the foot C D, with the tendon b of the long flexor of the great toe. Afterwards in Fig. 19, behind the abductor of the great toe.



THE TWENTY-FIFTH ANATOMICAL TABLE OF THE HUMAN MUSCLES EXPLAINED.

MUSCLES OF THE SMALL TOES.

FIGURE I.

The long extensor of the toes with the third peroneus, laterally.

a The long extensor of the toes conjoined with the third peroneus into one.
b b c c The first part of its origin, springing from the root of the upper head of the tibia at b b, just before the upper head of the fibula: and at c c from the anterior spine of that head of the fibula.

d Part of the tendinous vagina or swath of the leg, from the lower or inner surface of which the flesh of this part of the origin of the muscle springs; and is cut off at e e, where the flesh no longer goes off from it.

It arises also from the production which the said tendinous swath sends in betwixt this extensor and the tibialis anticus.

f g h h The other part of the beginning, which from its origin is tendinous at g, and arises from the anterior spine of the fibula h h, and from the margin of it that lies next the tibia.

i i The third portion of its origin, which for the most part is tendinous from its beginning at i i, and arises at k k from the anterior spine of the fibula, and from the flat side in which that spine terminates in its lower part. Part of this extensor, belonging to the peroneus arises also from the production of the tendinous swath of the leg.

l The tendon of the long extensor of the toes, which divides itself into four tendons m. n. o. p, running over the back of the foot to the four small toes.

The manner in which it runs under the transverse ligament at the extremity of the leg and foot, see in Tab. IX. X in the left foot; and in Tab. I. q in the foot.

q The tendon of the long extensor running over the back of the little toe. r the extremity of that tendon, inserted into the oblong transverse tubercle that is in the posterior head of the second bone or phalanx of this toe, in its upper side. s t portions of the tendon running to the third bone and ending in the common extremity u, inserted at v into the upper part of the first.

w The aponeurosis, which goes from this side to the tendon q; and is produced from the abductor of the little toe, from whence it is here cut off at x.

The aponeurosis, that joins to the other side of this and the rest of the tendons, see in Tab. I. h in the foot: and in Tab. II. q in the foot: and Tab. III. u in the foot. And the said aponeurosis arises partly from the capsule of the joint of the toe with the metatarsus, in part from the first interosseus and the lumbricalis, and partly from the side of the bone of the first phalanx.

y. y. y The cut tendons of the short extensor of the toes.

z α The common tendon of the long and short extensor. z the portion that is produced by the short extensor; α that produced by the long extensor: and betwixt them is a mark of division. β the end inserted into the bone of the second order, as that of r into the little toe. γ. δ portions running to the third bone, of which the one γ is from the short extensor; the other δ from the long extensor. ε the common end of them inserted at ζ into the upper part of the posterior head of the last bone.

η The aponeurosis, which from this side joins that part of the common tendon that is formed by the tendon of the short extensor. This goes off from the second interosseus of the same toe and from the capsule of the joint.

The same is observable also in the second and third toe.

θ i x The tendon of the third peroneus, here arising from the flesh at θ, and inserted at x into the upper part of the root of the posterior head of the fifth metatarsal bone, near its juncture with the fourth, and thence is continued along the spine in the upper side of the said fifth metatarsal bone.

The manner how it runs under the ligament at the extremity of the leg and foot, see in Tab. IX. X in the left foot, and Tab. I. q in the foot.

The systematic connexion appears in Tab. IX. G--R, and f--m in the left extremity; partly covered by the long peroneus Z, and the short peroneus B C.

In the fore part its connexion appears in Tab. II. A--E and m--q in the leg and foot; partly covered by the extensor proper to the great toe H I. Then in Tab. I. τ--h in the leg and foot, placed in part behind the extensor proper to the great toe i, and the tibialis anticus n.

Moreover in Tab. III. n. o. p. q r s t u in the feet. And in Tab. V. r z s in the foot. In Tab. VI. U V in the foot. And in Tab. VII. γ γ in the foot. And in Tab. IX. ρ in the right foot.

FIGURE II.

The external or bicipital interossei of the foot, in their upper side.

a b b c d d e f The second interosseus of the fourth toe.

a The thicker head, arising at b b from more than the posterior half of the inner side of the fifth metatarsal bone, that is opposite the fourth.

c The smaller head, arising at d d from the back part of the lower side of the fourth metatarsal bone, that lies next the fifth bone.

e The tendon, inserted at f into the lower part of that side of the posterior head of the first bone of the fourth toe, that lies next the little toe.

Add here Fig. 3. a--e.

The systematic connexion appears in Tab. IV. Π in the foot. Then in Tab.

VIII. S in the foot: and in Tab. IX. q in the left foot; covered by the tendon O of the long extensor of the toes.

g h h i k k l m The second interosseus of the third toe.

g The thicker head, arising at h h from more than the posterior half of the side of the fourth metatarsal bone, that lies next the third.

i The smaller head, arising at k k from the posterior part of the lower margin of the side of the third metatarsal bone, that lies next the fourth.

l The tendon, inserted at m in the lower part of that side of the posterior head of the first bone of the third toe, that lies next the fourth toe.

Add here Fig. 3. f--k.

The systematic connexion appears in Tab. IV. Z in the foot. Then in Tab. III. betwixt k and l in the left foot: covered by the short extensor of the toes k. In Tab. II. covered also by the tendon of the long extensor of the toes A E that belongs to the fourth toe. Then in Tab. VIII. T in the foot: and in Tab. IX. p in the left foot; covered by the short extensor of the toes d, and by the tendon of the long extensor P.

n o o p q q r s The second interosseus of the second toe.

n The thicker head, arising at o o from more than the posterior half of the side of the third metatarsal bone, that lies next the second.

p The thinner head, arising at q q from the posterior half of the side of the second metatarsal bone, that lies next the third, and particularly from the lower margin of the oblong eminence that is extended along that side.

r The tendon, inserted at s into the lower part of that side of the posterior head of the first bone of the second toe, that lies next the third toe.

Add here Fig. 3. l--q.

The systematic connexion appears in Tab. IX. A in the foot. Then in Tab. III. betwixt i and k in the left foot, covered by the short extensor of the toes i. In Tab. II. it is also covered by the tendon of the long extensor of the toes A E belonging to the third or middle toe. Then in Tab. VIII. V in the foot: and in Tab. IX. o in the left foot; covered by the short extensor of the toes c, and the tendon of the long extensor Q.

t u u v w x y z α The first interosseus of the second toe.

t The thicker head, arising at u from more than the posterior half of that side of the second metatarsal bone, that lies next the first bone. v the tendinous part of its beginning.

w The thinner head, arising with a tendinous beginning x from the upper part of the tip of the larger cuneiform bone at y, and is inserted into the first and second metatarsal bone.

z The tendon, inserted at α into the lower part of that side of the posterior head of the first bone of the second toe, that lies next the great toe.

But the fibres of each head of this muscle meet together at acute angles.

Add here Fig. 3. r--w.

The systematic connexion appears in Tab. IV. Θ in the foot. Then in Tab. III. m in the foot; covered by the short extensor of the toes f h. Then in Tab. II. h in the foot; covered by the short extensor of the toes i k, and by the tendon of the extensor proper to the great toe I K. And so in Tab. I. at L in the foot; and in Tab. IX. n in the left foot; covered by the short extensor of the toes a b, and by the tendon of the extensor proper to the great toe S.

FIGURE III.

The external bicipital or interossei muscles of the toes, view'd in their lower part.

a b c d e The second interosseus of the fourth toe.

b Part of the tendinous beginning.

c Its origin from the posterior head of the fourth metatarsal bone, that lies next the fifth.

It also arises from the ligament that confines the tendon of the long peroneus in the sole of the foot: see Tab. X. Fig. 21. U P.

d The tendon, inserted at e into the lower part of that side of the posterior head of the first bone of the fourth toe, that lies next the fifth.

Add here Fig. 2. a--f.

The systematic connexion appears in Tab. X. Fig. 22. β γ δ; covered by the interosseus of the little toe ε. Then in Fig. 21. U V; covered by the interosseus of the little toe S, the transversalis of the foot f g. Then in Fig. 20. μ ν; covered by the interosseus of the little toe λ, the transversalis of the foot g, and the fourth lumbricalis Z, with the tendon of the long flexor of the toes M Q. Then in Fig. 19. X Y; covered by the interosseus of the little toe Z, the transversalis of the foot g, and the fourth lumbricalis c, and the tendon of the long and short flexor of the foot V, with the short flexor of the toes T. Then in Fig. 18. m m; covered by the interosseus of the little toe o, the transversalis of the foot i, the fourth lumbricalis h, and the tendon of the short flexor of the toes, that belongs to the little toe; also by the middle portion of the aponeurosis plantaris, belonging to the little toe G.

Its connexion is also seen in Tab. VIII. Y in the foot.

f g h i k The second interosseus of the third toe.

g The tendinous part of its beginning.

h Its origin from the root of the posterior head of the third metatarsal bone, where it lies next the fourth.

T W E N T Y - F I F T H M U S C U L A R T A B L E .

i The tendon, inserted at k into the lower part of the posterior head of the first bone of the third toe, that lies next the fourth toe.

Add here Fig. 2. g--m.

The *systematic connexion* appears in Tab. X. Fig. 22. v w x; covered by the first interosseus of the fourth toe y. Then in Fig. 21. Y Z; covered by the first interosseus of the fourth toe W, the transversalis of the foot f, and the adductor of the great toe k. Then in Fig. 20. o; covered by the transversalis of the foot g, the third lumbricalis X, and the tendons O. P of the long flexor of the toes, and the adductor of the great toe t. Then in Fig. 19. i; placed under the same parts: and Fig. 18. l; placed under the same, and under the middle portion E of the aponeurosis plantaris.

l m n n o p q The *second interosseus of the second toe*.

m The tendinous part of the beginning.

n n Its origin from the second metatarsal bone, before the root of its posterior head, that lies next the third metatarsal bone.

o Its origin from the third metatarsal bone, near the root of its posterior head, next the second metatarsal bone.

p The tendon, inserted at q into the lower part of the side of the posterior head of the first bone of the second toe, next the third or middle toe.

Add here Fig. 2. n--s.

The *systematic connexion* appears in Tab. X. Fig. 22. p q r; placed under the first interosseus of the third or middle toe s. Then in Fig. 21. c d; placed under the first interosseus of the middle toe a, under the transversalis of the foot f, and the abductor of the great toe k. Then in Fig. 20. π; covered by the transversalis of the foot g, the second lumbricalis W, and the tendon of the long flexor of the toes N. Then in Fig. 19. k, and Fig. 18. k; covered by the same parts.

r s t u v The *first interosseus of the second toe*.

r The thicker head.

s. t Tendinous parts of the origin.

u Its origination from more than the posterior half of that side of the second metatarsal bone that lies next the first.

v The tendon, inserted at w into the lower part of that side of the posterior head of the first bone of the second toe, that lies next the great toe.

Add here Fig. 2. t--α.

The *systematic connexion* appears in Tab. X. Fig. 22. m n o. Then in Fig. 21. e; covered by the transversalis of the foot f, and the abductor of the great toe k l. Then in Fig. 20. betwixt the first lumbricalis, the metatarsal bone, and the first bone of the second toe; covered as before in Fig. 21. and also by the first lumbricalis V. So likewise in Fig. 19. and 18.

F I G U R E I V .

The inner interossei of the foot, viewed in their lower part.

a b b c d e The *interossei of the little toe*.

b b Its origin from the back part of the lower edge of that side of the fifth metatarsal bone, that lies next the great toe.

c The tendinous part of its origin.

The manner how it arises from the ligament that confines the tendon of the long peroneus in the sole of the foot, see in Tab. X. Fig. 21. S N.

d The tendon, inserted at e into the lower part of that side of the posterior head of the first bone of the fifth or little toe, that lies next the great toe.

The *systematic connexion* appears in Tab. X. Fig. 22. ε ζ η. Then in Fig. 21. S T; covered by the short flexor of the little toe Q, and the transversalis of the foot f h. Then in Fig. 20. λ; covered by the short flexor of the little toe t, and the transversalis of the foot g, by the tendon M Q of the long flexor of the toes, and the fourth lumbricalis Z. Then in Fig. 19. Z; covered by the short flexor of the little toe a, and the transversalis of the foot g h, and the tendon V of the short flexor of the toes, with the tendon of the long flexor that belongs to the little toe, and the fourth lumbricalis c. And so in Fig. 18. o; covered as before.

Moreover in Tab. VII. it appears at ε in the foot.

f g g h i k The *first interosseus of the fourth toe*.

g g Its origin from the back part of the lower edge of that side of the fourth metatarsal bone, that lies next the great toe.

h The tendinous part of its beginning.

The manner how it further arises from the ligament that confines the tendon of the long peroneus in the sole of the foot, see in Tab. X. Fig. 21. W P.

i The tendon, inserted at k into the lower part of that side of the posterior head of the first bone of the fourth toe, that lies next the great toe.

The *systematic connexion* appears in Tab. X. Fig. 22. y z α; covered by the second interosseus of the fourth toe β. Then in Fig. 21. W X; covered by the second interosseus U, the transversalis of the foot f g, and the adductor of the great toe k. Then in Fig. 20. ξ; covered by the second interosseus μ, the transversalis of the foot g, the adductor of the great toe t, the fourth lumbricalis Z, and the third X, with the tendons of the long flexor of the toes M Q and P. Then in Fig. 19. betwixt the third lumbricalis d, the metatarsal bone, and the first bone of this fourth toe: also betwixt the fourth lumbricalis c, the tendon U, and the transversalis of the foot g; and covered by the same parts as in Fig. 20. with the addition of the short flexor of the toes T R. Then in Fig. 18. betwixt the third lumbricalis g, the metatarsal bone, and the first bone of this fourth toe: also betwixt the fourth lumbricalis h, the transversalis of the foot i, and the portion F of the aponeurosis plantaris; covered by the parts as before in Fig. 19. and by the portion F of the aponeurosis plantaris.

l m m n o p The *first interosseus of the third toe*.

m m Its origin from the posterior part of the lower edge of that side of the third metatarsal bone, that lies next the great toe.

n The tendinous part of its origination.

o The tendon, inserted at p into the lower part of that side of the posterior head of the first bone of the third toe, that lies next the great toe.

The *systematic connexion* appears in Tab. X. Fig. 22. s t u; covered by the second interosseus of this third toe v. Then in Fig. 21. a b; covered by the second interosseus Y, and the transversalis of the foot f, with the adductor of the great toe k. Then in Fig. 20. betwixt the second lumbricalis W, the metatarsal bone, and the first bone of the third toe; covered as before in Fig. 21. and by the second lumbricalis W. So likewise in Fig. 19. betwixt the second lumbricalis e, the metatarsal bone, and the first of the third or middle toe. And in Fig. 18. betwixt the 2d lumbricalis f, and the 1st bone of the 3d toe.

F I G U R E V .

The short flexor of the toes.

a Its origin from the lower part of the calcaneum, near the root of the protuberance that forms the heel: from whence it arises outwardly tendinous at b; in which part it coheres for a considerable way with the middle aponeurosis plantaris, in such a manner that it seems to arise from thence.

c The portion, belonging to the second toe. d its tendon, having a slit in it marked e, and afterwards dividing into two tails f, g: which cohere together again by a thinner portion h, and are at last inserted at i k into the tubercles, that are fixed at the lower part of each margin of the second bone of this toe, before the head of its first bone.

l The portion, belonging to the third toe. m its tendon, terminating like the tendon d of the first portion.

n The portion, belonging to the fourth toe. o its tendon, terminating like the tendon d.

p The tendon, belonging to the little toe, and terminating like the tendon d. For the ligaments by which the tendons are confined, see Tab. X. Fig. 18. s. t.

The *systematic connexion* appears in Tab. X. Fig. 19. L--V; where part of the tendons lies under those of the long flexor of the toes l, &c. Then in Fig. 18. v w w. &c. where the tendons are placed also under those of the long flexor x. &c. but the rest of the muscle is covered by the middle aponeurosis plantaris A B C D E F G.

Moreover in Tab. IX. it appears at χ ψ in the right foot: and y z in the left foot. And in Tab. II. c d in the foot. Tab. I. E in the foot. Tab. VI. Y and δ in the foot. And Tab. V. ε in the foot.

F I G U R E V I .

The long flexor of the toes, in its back part.

a The tendinous part of its uppermost origin, arising at b from the back part of the tibia, below the middle of the long eminence, from whence the soleus arises.

c Another tendinous part of its origin, arising at d d from the back part of the tibia, and at e from the next adjacent part of the interosseus ligament, that is betwixt the tibia and fibula. This tendinous portion with the adjacent fleshy portion f, are placed under the tibialis posticus.

g The tendon.

The ligament, by which it is confined near the inner angle, see in Tab. V. e in the leg and foot.

Add here Fig. 7. and Fig. 8. a--s.

The *systematic connexion* appears in Tab. VII. f g in the leg; covered by the long flexor of the great toe h, and by the popliteus Y. Then in Tab. VI. F in the leg; covered by the soleus Ω, &c. And in Tab. V. betwixt the tendon d and ψ in the left foot, also betwixt d and the tendon of the plantaris in the right foot.

F I G U R E V I I .

The long flexor of the toes, in its fore part.

a a Its origin from the edge of the tibia.

b c The tendon; arising here at b from the flesh, and running along the inner side of the ankle at c to the sole of the foot.

The *ligament*, by which it is confined near the ankle and at the eminence of the calcaneum, that sustains the head of the astragalus, (under which eminence it goes along the side of the foot) see in Tab. I. u in the leg and foot: and in Tab. IX. δ in the foot.

d The fleshy head, that joins the long flexor in the sole of the foot. e e its origin from the inner side of the protuberance of the calcaneum, that forms the heel.

Add here Fig. 6. and Fig. 8. a--s.

The *systematic connexion* appears in Tab. III. X--c in the leg and foot; covered by the tendon of the tibialis posticus S--U. So also in Tab. II. Q R R S Z a b in the leg and foot; covered in the same manner by the tendon of the tibialis posticus V V. And in Tab. I. θ ι ι x z in the leg and foot, covered in like manner by the tendon of the tibialis posticus λ y y, and the abductor of the great toe A B.

Laterally its connexion appears in Tab. IX. φ Ω Ω α α in the right foot.

F I G U R E V I I I .

The long flexor of the toes, with the lumbricalis and tendon of the long flexor of the great toe, in the sole of the foot.

a b The tendon of the long flexor of the toes. b the knot where the tendon rubs against the calcaneum.

c The portion, by which the tendon of the long flexor of the toes, joins itself to the tendon of the long flexor of the great toe.

d e f g g h i The fleshy head, that joins the long flexor of the toes in the sole of the foot, composed of two portions at its origination e and f: of which

e the one part arises at g g from the bottom of the calcaneum before the inner and lower part of the tubercle, that forms the heel. The continuation of this part, see in Fig. 7. d e e,

f The

T W E N T Y - F I F T H M U S C L A R T A B L E .

F The other part, begins by a thin tendon *h*, from the lower part of the calcaneum at *i*, before the lower and outer part of the protuberance that forms the heel.

k. l. m. n The four tendons, into which the tendon of the long flexor of the toes, with the head that joins it, divides or splits itself. Which tendons belong to the four small toes *o. p. q. r.*, and being slit or divided according to their length, they are inserted at *s. s. s.* into the 3d or last bones of the toes.

The ligaments, by which those tendons are tied down or confined to the bones of the toes, see in Tab. X. Fig. 18. *s. t. u.*

Add here Fig. 7. and 6.

The *systematic connexion* appears in Tab. X. Fig. 20. A--R, where the lumbricales *S. W. X. Z* cover part of the tendons. Then in Fig. 19. *l m.*, and on that side of the short flexor of the toes that lies next the great toe; and the rest of it is covered by the lumbrical muscles *c. d. e. f.*, and the short flexor of the toes *L--V*, the abductor of the little toe *A B*, and the abductor of the great toe *F G*. Then in Fig. 18. *x. &c.* on that side of the tendons of the short flexor of the toes *v*, that is next the great toe, and betwixt the horns of those tendons *w w*: the rest being covered by the same muscles as in Fig. 19. and also by the middle aponeurosis plantaris *D E F G*.

Moreover in Tab. VII. its connexion appears at $\delta \zeta \theta$ in the foot. And in Tab. VI. below *X*, and δ in the foot. Laterally in Tab. IX. *y. z* in the foot.

t u v The *first lumbricalis*, arising at *u* from the first and second tendons of the long flexor of the toes. *v* the tendon, in which it ends.

Its connexion appears in Tab. X. Fig. 20. *S T V*. Then in Fig. 19. *f*; covered by the short flexor of the toes *N O R*. Then in Fig. 18. *e*; covered by the middle aponeurosis plantaris *A D*.

w x The *second lumbricalis*. *x* the tendon, in which it ends.

The *systematic connexion* of it appears in Tab. X. Fig. 20. *W*; covered by the first lumbricalis *S*, and the third *X*. Then in Fig. 19. *e*; covered by the first lumbricalis *f*, and the short flexor of the toes *R S*. Then in Fig. 18. *f*, covered by the middle aponeurosis plantaris *A D E*.

y z a The *third lumbricalis*, arising at *z* from the second and third tendon. *a* its tendon.

The *systematic connexion* appears in Tab. X. Fig. 20. *X Y*. Then in Fig. 19. *d*; covered by the short flexor of the toes *R S T U*. Then in Fig. 18. *g*; covered by the middle aponeurosis plantaris *A E F*.

$\beta \gamma \delta$ The *fourth lumbricalis*, arising at γ from the third and fourth tendon of the long flexor. δ the tendon, in which it ends.

The *systematic connexion* appears in Tab. X. Fig. 20. *Z a*. Then in Fig. 19. *c*; covered by the short flexor of the toes *R S T U V*. Then in Fig. 18. *h*; covered by the middle aponeurosis plantaris *A F G*.

The tendons insert themselves into the tubercles of the bones of the first order of the toes, that stand out on that side of their posterior heads, which lies next the great toe: and a thin aponeurosis joins them to the tendons of the long extensor of the toes.

ϵ The tendon of the long flexor of the great toe, which being increased by the portion ζ received from the tendon of the long flexor of the toes, is then in a manner split according to its length η , at last inserted at θ into the last bone of the great toe, into the rough protuberance in the lower part of the posterior head of that bone.

The ligament, by which it is confined, see in Tab. X. Fig. 18. *c. d. d.*

Add here Fig. X.

The *systematic connexion* appears in Tab. X. Fig. 20. *b c d e*; covered by the tendon of the long flexor of the toes *A*, and by the head *C* that joins it in the sole of the foot. Then in Fig. 19. *n o*; covered by the short flexor of the toes *N*, and the abductor of the great toe *F G*. Then in Fig. 18. *a a b*; covered by the middle aponeurosis plantaris *A C*.

Moreover in Tab. VII. it appears at *l l* in the foot. In Tab. VI. $\epsilon \epsilon$ in the foot. In Tab. V. $\gamma \gamma$ in the foot. In Tab. III. *w w* in the foot. In Tab. II. *f f g* in the foot: and in Tab. I. *F F G* in the foot. Laterally in Tab. IX. *g* in the foot.

MUSCLES OF THE GREAT TOE, AND OF THE THREE NEXT TOES.

FIGURE IX.

The short extensor of the toes.

a a Its origin from the upper part of the anterior protuberance, that stands forward from the calcaneum.

b The portion, that goes to the great toe. **c** the tendon, in which it ends; inserted at *d* into the oblique eminence that is in the upper part of the first bone of the great toe, just before its posterior head, on that side that lies next the small toes.

e The portion belonging to the second toe. **f** its tendon.

g The portion going to the third or middle toe. **h** its tendon.

i The portion going to the fourth toe. **k** its tendon.

l. l. l Those tendons conjoined with the tendons of the long extensor of the toes, so as to form common tendons, which are distinguished by an intermediate line.

m. m. m The cut tendons of the long extensor of the toes.

n l The common tendon formed by the conjunction of the tendon *n* from the long extensor, and *l* from the short extensor. **o** the extremity inserted into the bone of the 2d phalanx. **p. q** portions which run to the third bone, of which the one *p* belongs to the extensor longus, and the other *q* to the brevis. **r** the common end of both those portions, inserted at *s* into the upper part of the posterior head of the bone of the first order. The same may be also observed in the third and fourth toe.

Add here Fig. 1.

The *systematic connexion* appears in Tab. IX. *a--e* in the left foot; covered by the tendon of the extensor proper to the great toe *S*, and the tendons of the long extensor of the toes *R. Q. P. O*, by the tendon of the third peroneus *L M*, of the short peroneus *D E*, and by the ligament which covers the tendons at the joint of the foot and upon the instep *X*.

And in Tab. III. *e--l* in the foot. Then in Tab. II. *i k l* in the foot, covered by the tendon of the extensor proper to the great toe *I K*, and by the tendons of the long extensor of the toes *A E*, and the tendon of the third peroneus *D*.

Also in Tab. I. *H I K* in the foot; covered in like manner by the tendon of the extensor proper to the great toe *i*, and by the tendons of the long extensor of the toes *c b a w*, and by the tendon of the third peroneus χ .

And in Tab. VII. $\gamma z \alpha \beta$ in the foot; covered by the tendon of the short peroneus *w*. Then in Tab. VI. *W* in the foot, covered by the tendons of the extensor longus *U*, of the third peroneus *V*, and of the short peroneus *L*. Then in Tab. V. *t*; covered in like manner by the tendons of the long extensor of the toes *r*, and by the tendon *s* of the third peroneus, and of the short peroneus *i*; and moreover by the ligament *q*, by which the tendons are confined upon the back and bend of the foot.

MUSCLES OF THE GREAT TOE.

FIGURE X.

The long flexor of the great toe.

a a Its origin from the posterior flat side of the fibula, beneath a third part of its length; and from thence its rise is continued along the two lower thirds of the bone almost to the ankle *b b*.

c c The line wherein the descending fibres converge or meet from each side. **d** The tendon.

The ligament, that confines the tendon, see in Tab. IX. Φ in the right foot. Add here Fig. 8. $\epsilon \zeta \eta \theta$.

The *systematic connexion* appears in Tab. VII. *h i k* in the leg. Then in Tab. VI. *H* in the leg; covered by the soleus Ω , &c. In like manner too it is seen in Tab. V. *f* in the leg.

Laterally its connexion appears in Tab. IX. $\Pi \Sigma$ in the right foot. And in Tab. III. *V* in the leg.

FIGURE XI.

The extensor proper to the great toe, laterally.

a a Its origin from the flat side of the fibula, that lies next the tibia in the fore part of the leg; and from that side along almost the whole anterior spine: but below, where the said spine is flattened, it arises from the flat side which it forms. And along the extent of this origination, it arises too from the ligament which occludes most of the space or interval betwixt the bones of the leg; and below, a small part arises also from the tibia *b*, next the ligament.

c The tendinous portion of its origin.

d The tendon, inserted at *e* into the upper part of the posterior head of the last bone of the great toe.

The manner in which it is retained by the ligament, that is in the fore part of the leg at the bend of the foot, see in Tab. IX. *Y Z* in the left foot: and in Tab. I. *r. t* in the leg and foot.

f The aponeurosis, that joins the tendon on this side from the capsule of the joint of the great toe, with its metatarsal bone.

The aponeurosis, that joins it on the other side, see in Fig. 13. *f*.

The *systematic connexion* appears in Tab. IX. *S S S T* in the left foot, covered by the long extensor of the toes, with the third peroneus *G I N*.

In its fore part the connexion appears in Tab. II. *H I K L M* in the leg and foot; covered by the long extensor of the toes, with the third peroneus. Then in Tab. I. *i i i k l l l* in the leg and foot; covered by the long extensor of the toes, with the third peroneus $\tau \psi \phi$, and the tibialis anticus *n*. Moreover in Tab. IX. $\lambda \lambda \mu \nu$ in the right foot.

FIGURE XII.

The abductor and short flexor of the great toe, in their lower side.

a--e The *abductor of the great toe*.

a Its origin from the root of the protuberance of the calcaneum, that forms the heel: from whence it is outwardly tendinous at *b*, and in that part coheres for a long way with the aponeurosis that covers it.

c The tendon, at last conjoined at *d* with the ligament *f*, that ties the outer sesamoid bone to the first bone of the great toe, with which ligament it is inserted at *e* into the inner and lower part of the posterior head of the first bone of the great toe.

Add here Fig. 13. *a--c*.

The *systematic connexion* appears in Tab. X. Fig. 19. *F--K*; covered by the short flexor of the toes *L M N*. Then in Fig. 18. *Q--S*; covered by the aponeurosis *O*.

Moreover in Fig. 20. *m n*, and Fig. 21. $\beta \gamma \delta$. And in Tab. V. δ in the foot.

f The ligament, which arising at *g* from the outer sesamoid bone of the great toe, is inserted at *e*, conjunctly with the tendon of the abductor *d*, into the first bone of the great toe.

The *systematic connexion* of this ligament, see in Tab. X. Fig. 21. ϵ . And Fig. 20. *o*; in part covered by the tendon of the long flexor of the great toe *d e*. So also in Fig. 19. *K* and Fig. 18. *T*.

h--s The *short flexor of the great toe*.

h The longer tendinous head, arising at *i* from the lower and anterior extremity of that side of the calcaneum which lies next the other foot, just behind its juncture with the cubiform bone.

k The shorter tendinous beginning, arising at *l* from the lower part of the middle cuneiform bone of the tarsus.

m Part of that portion of the middle aponeurosis plantaris, that goes into the beginning of the short flexor of the great toe.

The portion, which it receives from the tendon of the tibialis posticus, see in Tab. XXIV. Fig. 14. *i*.

n Part of the short flexor, which belongs to the outer sesamoid bone of the great toe.

o o The part in which the short flexor joins the tendon of the abductor of the great toe. **p** its insertion into the outer sesamoid bone of the great toe, into the lower and back part of that side of the bone which lies next the other foot.

q That part of the short flexor which belongs to the inner sesamoid bone of the great toe.

r The tendon, in which it ends, inserted at *s* into the back part of the inner sesamoid bone of the great toe. But being conjoined at *t* with the tendinous end of the adductor pollicis, it has one extremity common to that and the transversalis of the foot.

Add here Fig. 13. *d e*.

T W E N T Y - F I F T H M U S C U L A R T A B L E.

The *systematic connexion* appears in Tab. X. Fig. 21. o--u and y z α ; covered by the abductor of the great toe $\beta \gamma$. Then in Fig. 20. s s v p q r; covered by the abductor of the great toe m n, the tendon of the long flexor of the great toe c d, and by the long flexor of the toes C D, &c. with the first lumbricalis S. Then in Fig. 19. q q s w x y; covered by the abductor of the great toe F H, the tendon of the long flexor of the great toe n, the first lumbricalis f, and the short flexor of the toes N O. Then in Fig. 18. U V W X and betwixt Y and C; covered by the abductor of the great toe Q R, and by the middle aponeurosis plantaris A C.

Moreover in Tab. VIII. it appears at w x in the foot. And in Tab. VII. n in the foot.

u The place whence the abductor of the great toe is cut off, with the transversalis of the foot.

v The tendinous end, common to the abductor of the great toe, and the transversalis pedis, w the place of its juncture with the ligament y, that goes from the inner sesamoid bone of the great toe, to the insertion of it at x, in the first bone of the great toe.

y The ligament, which arises at z from the inner sesamoid bone of the great toe, and being conjoined with the common tendinous end of the abductor pollicis v and transversalis pedis, is inserted therewith at x into the first bone of the great toe.

The *systematic connexion* appears in Tab. X. Fig. 21. w. And Fig. 20. x; in part covered by the tendon of the long flexor of the great toe d e. So also in Fig. 19. u, and Fig. 18. a.

F I G U R E X I I I.

The Abductor and short flexor of the great toe, laterally.

a b b c The *Abductor of the great toe*.

a a Its origin from the lower part of the inner side of the root of the tubercle of the calcaneum, where it forms the heel.

b b The meeting together of the fibres in angles.

c The tendon, in which it ends.

Add here Fig. 12. a--e.

The *systematic connexion* appears in Tab. IX. σ -- τ in the right foot.

Also in Tab. I. A B C in the foot.

d e The *short flexor of the great toe*.

e The lower part that joins itself to the tendon of the Abductor pollicis.

Add here Fig. 12. h--s.

The *systematic connexion* appears in Tab. IX. $\upsilon \upsilon \phi$ in the right foot; covered by the abductor of the great toe σ .

Also in Tab. III. d in the foot. And in Tab. II. e in the foot. And in Tab. I. D in the foot; covered by the Abductor of the great toe A C.

f The aponeurosis, coming partly from the tendon of the Abductor of the great toe g, and partly from the capsule h of the joint of this toe, with its metatarsal bone, and joins the tendon i i of the extensor proper to the great toe.

The *systematic connexion* appears in Tab. IX. ξ in the right foot.

And in Tab. I. m in the foot.

k The tendon of the extensor proper to the great toe, here cut off at l, and inserted at m into the last bone of the great toe.

F I G U R E X I V.

The Adductor of the great toe, with the transversalis pedis.

a b b c c The ligament, which arising from the calcaneum at b b, is inserted at c c into the eminence of the cubical bone of the tarsus.

d The excursion of the foreaid ligament, which outwardly joins the ligament a in Fig. 15. And together they go into the origination e e of the adductor of the great toe.

The *systematic connexion* appears in Tab. X. Fig. 21. K--O. Then in Fig. 20. $\delta \delta \gamma \epsilon \eta$; covered by the head D F that joins the long flexor of the toes in the sole of the foot. In Fig. 19. the rest is covered by the Abductor of the little toe B A, and short flexor of the toes L.

f--m The *Adductor of the great toe*. Internally it arises from the bottom part of the fourth metatarsal bone, near the root of its posterior head, and in its lower part it springs from almost the whole posterior head of the third and second metatarsal bone.

f Part of the Adductor of the great toe, which is in a manner distinct or separate from the rest.

g The other more considerable portion. h the tendinous part of its origin.

i The tendinous end, which being first conjoined at k with the tendinous end p of the short flexor of the great toe, and is with that inserted into the posterior and lower part of that side of the inner sesamoid bone of the great toe, that lies next the second toe; and being joined at l with the ligament n, that goes from the inner sesamoid bone to the first phalanx of the great toe, inserts itself therewith at m into the said first bone or phalanx, into the lower part of that side of its posterior head, that lies next the second toe, not much beyond the posterior edge of the said head.

The *systematic connexion* appears in Tab. X. Fig. 21. k--n v; covered by the short flexor of the great toe o. s. Then in Fig. 20. t t u w cover'd by the short flexor of the great toe s, and by the long flexor of the toes D M L K, with the lumbricales Z. X. W. S. Then in Fig. 19. p r t; covered by the short flexor of the great toe q, and the first lumbricalis f, with those in Fig. 20, and also by the short flexor of the toes L T. Then in Fig. 18. Y Z; covered by the short flexor of the great toe, the first lumbricalis e, and the rest mentioned in Fig. 19.

Moreover in Tab. VIII. it appears at Γ in the foot. And Tab. IV. Σ in the foot.

n The ligament, which arises at o from the inner sesamoid bone of the great toe, and being conjoined with the tendon l, from the end of the abductor of the great toe i, is with that inserted into the first bone of the great toe at m. See y Fig. 12.

p The tendinous end of the inner tail of the short flexor of the great toe, here cut off at q, inserted at r into the inner sesamoid bone of the great toe.

s The ligamentary excursion d cut off, together with the ligament a Fig. 15.

t--y The *transversalis of the foot*.

u The tendinous beginning, whose first origination w, springs from the capsule that covers and includes the joint of the little toe with its metatarsal bone.

x The part that arises from the capsule of the joint of the fourth toe with its metatarsal bone, and next adjacent aponeurosis that covers the interossei muscles of that toe.

y y The extremity, by which it joins the tendinous end that is common to the adductor and short flexor of the great toe.

The *systematic connexion* appears in Tab. X. Fig. 21. f g h i. Then in Fig. 20. $\xi \xi \xi \sigma$; covered by the lumbricales S. V. W. X. Z, and by the tendons of the long flexor of the toes N. O. P. Q. Then in Fig. 19. g g h; covered by the lumbricales f. e. d. c, with the tendons of the long flexor of the toes, and those of the short flexor O. S. U. V, with the abductor of the little finger E. Then in Fig. 18. i i i; covered by the lumbricales e. f. g. h, by the tendons of the long and short flexor of the toes v, &c. and by the middle aponeurosis plantaris D E F G, and the abductor of the little toe r.

Moreover in Tab. VIII. Z in the foot.

M U S C L E S O F T H E L I T T L E T O E.

F I G U R E X V.

The short flexor of the little toe, in its bottom part.

a b The broad ligament, that arises from the lower eminence of the cubiform bone, and is inserted into the posterior heads of the 2d, 3d, 4th, and 5th of the metatarsal bones: and which confines the tendons of the long peroneus in the sole of the foot, like a sheath. Externally it is partly covered by meeting the excursion b of the ligament a Fig. 14; which excursion is here cut off at c.

The *systematic connexion* appears in Tab. X. Fig. 21. N O P. Then in Fig. 20. $\zeta \eta \theta$; partly cover'd by the head D that joins the long flexor of the toes in the sole of the foot. Then in Fig. 19. W; covered by the short flexor of the toes L T R, and the abductor of the little toe B. And what there appears naked, is in Fig. 18. covered by the portion M, by which the aponeurosis that covers the abductor of the little toe, is conjoined with the middle aponeurosis plantaris.

d e f g The *short flexor of the little toe*.

e Its origin from the ligament a. But inwardly it arises from the middle of the lower side of the root of the posterior head of the 5th metatarsal bone.

f The tendinous end, inserted at g into the lower part of the posterior head of the first bone of the little toe.

Add here Fig. 16.

The *systematic connexion* appears in Tab. X. Fig. 21. Q R; covered by the transversalis pedis h. Then in Fig. 20. $\iota \kappa$; covered, as before, by the transversalis pedis σ . Then in Fig. 19. a b; covered in like manner by the transversalis pedis h, and the abductor of the little toe B E. So likewise in Fig. 18. p; covered by the transversalis pedis i, and the abductor of the little toe q r.

h The place whence the interossei of the little toe is cut off at its origin from the ligament a b. i. that whence the second interossei of the fourth toe is cut off. k that whence the first interossei of the same toe is cut off. l l the origin of the principal part of the Adductor of the great toe, g h Fig. 14. And m that cut from its other less part f Fig. 14. See P. Fig. 21. Tab. X.

F I G U R E X V I.

The short flexor of the little toe, laterally.

a The origin from the outer edge of the fifth metatarsal bone, that stands downward, near its posterior head.

b The part that is inserted at c c into the outer edge of the lower side of the metatarsal bone of the little toe, just behind its anterior head.

d The other and more considerable part, which is inserted into the first bone of the little toe. e the tendinous end, in which it terminates.

Add here Fig. 15. d--g.

The *systematic connexion* appears in Tab. IX. w x in the left foot; covered by the abductor of the little toe r v.

And in Tab. VI. Z-- γ in the foot. Then in Tab. V. $\alpha \beta$ in the foot, covered by the abductor of the little toe y.

F I G U R E X V I I.

The abductor of the little toe, laterally.

a The fleshy part uncovered.

b The tendon, in which it at last ends; inserted at c into the outer part of the root of the posterior head of the first bone of the little toe.

d The part which is cover'd by a tendinous expansion.

e e Its origin from the whole outer side of the root of the tubercle belonging to the os calcis, where it forms the heel.

f Part of the aponeurosis that covers it, inserted at g into the back part of the great rough eminence that stands out from the posterior head of the metatarsal bone, belonging to the little toe, in the outer side of the foot.

The aponeurosis, which it sends to the tendon of the long extensor of the toes, see in Fig. 1. w.

Add here Fig. 18.

The *systematic connexion* appears in Tab. IX. r--v in the left foot; covered by the aponeurosis s.

And in Tab. V. u--y in the foot; covered by the aponeurosis u.

F I G U R E X V I I I.

The Abductor of the little toe, in its lower part.

a. b The two parts of which it is composed; and of which the part a forms here a distinct tendon, but in other subjects is often joined into one with the other tendon, and in others again it is perfectly distinct.

c c Its origin from the whole lower part of the protuberance of the calcaneum, that forms the heel; from whence the one part at d, that is outwardly quite tendinous, and the part at e, cohere together with the aponeurosis and tendinous parts that cover them.

f The tendon, inserted at g into the outer part of the root of the posterior head of the first bone of the little toe.

The aponeurosis, that goes off from its end to the tendon of the extensor belonging to the little toe, see in Fig. 1. w.

Add here Fig. 17.

The *systematic connexion* appears in Tab. X. Fig. 19. A B C D E; covered by the short flexor of the toes M L. Then in Fig. 18. q r; covered by the aponeurosis I K L.

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